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DePaul University
College of Education

BEYOND RACE: A QUANTITATIVE STUDY OF THE DISCIPLINE GAP AMONG
PREDOMINANTLY BLACK HIGH SCHOOLS IN CHICAGO

A Dissertation in Education
with a concentration in Curriculum Studies

by

Felipe Ignacio Agudelo Acevedo

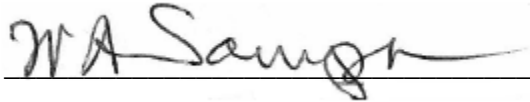
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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Education

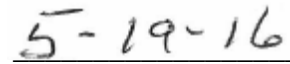
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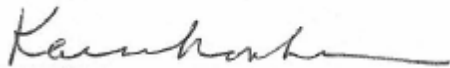


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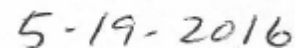


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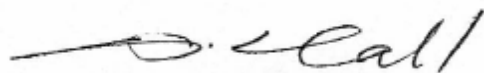


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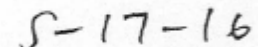


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Abstract

Exclusionary discipline in schools has been proven to develop negative consequences in the life of students who are exposed to this kind of punishment in schools. Research in this area has shown that Out of School Suspensions (OSS) more frequently affect Black male students. During this research I argue that OSS are not necessarily caused by the race of the student but by some other factors that make some predominantly Black high schools more likely to use OSS than others. A question to be answered in the area of school discipline is related to what contributes to the odds that schools with similar demographics do not have similar out of school suspension rates. The present research asked about the risks that could predict the odds that a predominantly Black high school may have an out of school suspension rate higher or lower than the state of Illinois or higher than the average within the sample. It basically focuses on the discipline gap among predominantly Black high schools in Chicago. For the purpose of this research race was not considered as a variable, it was only used as an inclusion factor of the sample. This research was conducted from a social ecological model with a population of 30 predominantly Black high schools in Chicago. It investigated the contribution of three groups of independent variables in predicting out of school suspension rates. For the purpose of this research, a quantitative approach was developed using Chi-square and logistic regression methods for data analysis. This research found that the variable called percentage of students with disabilities was found to be statistically significant when predicting the odds that a school will suspend above the average out of school suspension rate within the sample. This research contributed to the understanding of a new approach of out of school suspensions within predominantly Black high schools and the importance of schools in the disciplinary actions considered for students with disabilities.

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Acknowledgements

I owe my gratitude to all those people who have made this dissertation possible. I am especially thankful with my mother Carmenza, my brother Mario, and my aunt Luzmila for their support through my entire graduate experience.

I am extremely grateful to Dr. William Sampson for his encouragement, guidance and support. I am always going to remember our discussions that helped me to finish this work and that allowed me to grow intellectually.

I am deeply grateful with Dr. Karen Monkman and Dr. Horace Hall, for their insightful comments. They both made my doctoral experience a wonderful journey and made me fall in love more with education.

I also want to say thank you to my awesome wife Christina who supported me immensely and believed in me to be able to finish this dissertation. To Ricardo and Nancy Estrada my most sincere gratitude for their extraordinary support and kindness that helped me to achieve this dream. And last but not least I want to say thanks to the people at the Social Science Research Center and the Egan Center at DePaul University for their support.

CHAPTER I: INTRODUCTION

Since the start of the annual Gallop Poll of the Public's Attitudes toward the Public Schools in 1969, school discipline along with classroom management have been a primary focus in American education (Nichols, Ludwin, & Iadicola, 1999). As a way to keep discipline in schools, American schools have found in out of school suspensions and exclusionary discipline in general a strategy that sadly has been used to control their classroom and exclude those students that they may consider disruptive to perform their job (Dohrn, 2001; Gregory, Skiba & Noguera, 2010; Hemphill, Plenty, Herrenkohl, Toumbourou & Catalano, 2014; Kennedy-Lewis, 2013; Kinsler, 2011; Nichols et al., 1999). The out of school suspension as a punishment strategy is a practice used to prohibit students from being in the school building and to participate in any school related activity (Hemphill et al., 2014; Kinsler, 2011). This practice is one of the most common disciplinary practices for the last 25 years in American schools with more than 3.3 million students suspended each year (Lee, Cornell, Gregory & Fan, 2011; Noltemeyer & McLoughlin, 2010; Raffaele Mendez, Knoff & Ferron, 2002).

According to Christle, Jolivette, and Nelson (as cited in Ryan & Goddram, 2013) exclusionary discipline is just a temporary solution to a behavior problem which may produce life-long, negative effects measured through their low academic performance and involvement with the juvenile justice system. Additionally, Casella (2001) argued that exclusionary punishment removes what students need for their positive development and instead it puts them closer to other risk factors present in their environment. Ryan and Goodram (2013) considered how exclusionary discipline strategies basically place the needs of the students outside of the

school context, meaning that their emotional, academic, personal and intellectual needs might be satisfied by an environment that could be considered more a risk factor than a protector factor.

Originally the main goal of exclusionary discipline strategies was to prevent dangerous situations where the students represent a risk to themselves or others (Heitzmanl, 1983; Maag, 2012; Marshall, 2005). However it has developed different negative outcomes that not only interfere with students' academic performance but also develops feelings of anger, frustration and resentment towards education (Ryan & Godram, 2013; Skiba, Arredondo & Williams, 2014). According to Bireda (2010) this approach to discipline and punishment, coupled with pressure on schools to increase student test scores, has given school administrators an excuse and legal means to get rid of what could be perceived as undesirable students. This interruption of students' academic activities through out of school suspension has been correlated with low academic performance and negative student perceptions about education and school (Jones, 2013; Ryan & Goodram, 2013). Moreover, out of school suspension has also been found to be an action that might jeopardize students' academic achievement and their social development as well (Jones, 2013; Ryan & Goodram, 2013).

Different research in the area of school discipline has shown how out of school suspension can be counterproductive for academic and life achievement especially among Black students (Fenning et al., 2012; Gregory et al., 2010; Skiba et al., 2014). Research in this area argues that exclusionary discipline is not objective or impartial, which is evident through the disproportional out of school suspension rates, where Black students are up to three times more likely to be suspended than White students, even when they commit the same offense (Bireda,

2010; Davis, Suero & Glenn., 2013; Gibson & Haight, 2013; Gregory et al., 2010; Hemphill et al., 2014; Lee et al., 2011; Skiba et al., 2011).

Out of school suspension, with its negative consequences and its disproportionate implementation, have been well supported and documented in education literature based on both qualitative (Bireda, 2005; Gibson & Haight, 2013; Gregory & Mosely, 2004; Raffaele, Knoff & Ferron, 2002; Wadhwa, 2010) and quantitative research (Cornell & Fan, 2011; Davis et al., 2013; Davis Lee et al., 2011; Noltemeyer & Mcloughlin, 2010; Skiba et al., 2013; Sullivan, Klingbeil & Van Norman, 2013). These research has shown that Black students are more likely to be suspended than their white counterparts for the same behaviors, and that out of school suspension has been linked to feelings of anger, resentment and frustration within the students (Ryan & Godram, 2013; Skiba et al., 2014).

Despite the negative effects of out of school suspension and the discipline gap between Black and White students very little research has focused on the risks related to the difference in out of school suspension among predominantly Black high schools. The questions that have been asked in this regard have focused basically on the risks related to the suspension disproportionality among Black and White students. The current research asked about the variables related to the probability of being suspended from the school among predominantly Black high schools. It took into consideration schools that are demographically similar. This will help to identify the risks that can help to predict the factors that are making a difference in the suspension rates among similar schools.

Out of school suspension rates data from predominantly Black high school students in Chicago were analyzed in an attempt to determine if there is a relationship between the out of

school suspension rates and three groups of variables: (1) students' characteristics, (2) schools' characteristics and (3) parental contact. Additionally, out of school suspension data were analyzed to determine the contribution of these three groups of variables (each of these groups will be explained in detail further on in this document) to predict the odds that a predominantly Black high school in Chicago will have suspension rates higher or lower than the state of Illinois and within the sample.

School Discipline, Out of School Suspensions and their Historic Background since Zero Tolerance

According to Fuentes (2011) it is impossible to understand school discipline in the United States without situating it in the larger historical context of the country's economic, political and dominant social discourses that have shaped them. During the 1970s and the 1980s a change in the attitudes and approaches to violence was evident, especially in how it was connected to drugs (Fuentes, 2011; Jones, 2013). From 1986 to 1991, discipline concerns were not necessarily viewed as a priority in schools; instead drug use was considered the biggest issue in American schools (Nichols et al., 1999). New concerns about the relationship between drugs and violence provided an important justification for implementing a "zero tolerance" approach to drug-related school violence and punishment (Fuentes, 2011). This "zero tolerance" approach was not meant to prevent violence; rather, Casella (2001) argued, how it was an adult's response to blame and to take out their own frustrations and fears on young people. For Casella (2001) zero tolerance policy was primarily about blaming youth for circumstances adults had created. This resulted in the criminalization of youth and more severe punishment for their perceived wrongdoing (Casella, 2001).

In the context of Chicago, data from the Chicago Public Schools (CPS) show that the number of expulsions has increased since the zero tolerance policy went into effect in the middle of the 1995-1996 school year. The use of zero tolerance policies, has not only significantly increased the number of students expelled or suspended from school, but has also increased the number of referrals to the juvenile justice system for what some consider non-criminal, normal adolescent behavior (Bireda, 2011; Dohrn, 2001; Farmer, 2010; Jones, 2013). Behaviors like the expression of their individuality through clothes and fashion or just simply being loud could be considered serious infractions that need to be penalized (Bireda, 2011; Jones, 2013).

The implementation of this policy has not been equally or proportionally implemented (Bireda, 2010; Davis, Suero & Glenn., 2013; Gibson & Haight, 2013; Gregory et al., 2010; Hemphill et al., 2014; Lee et al., 2011; Skiba et al., 2011). In 1975 the Children's Defense Fund had one of the first studies that showed the disproportionality of discipline, illustrating how Black students were suspended in higher rates than their White peers (Davis et al., 2013). For Giroux (2009) this type of results may create expectations of how a certain group behaves. It develops a set of negative expectations related to a misconception of what race means and what people does based on their race.

The combined actions of criminalization of youth, racial profiling and exclusionary school discipline measures have continued to increase the racial gaps in discipline and achievement. This will not only affect the life chances of students, but will increase their likelihood of entering the juvenile justice system and the perpetuation of violence (Gordon, Della Piana & Keleher, 2001). Using a study by the American Psychological Association, Jones (2013) maintained that zero tolerance policies may increase and exacerbate students' misbehavior and

poor academic performance. This situation according to Bireda (2011) and Jones (2013) is exacerbated when teachers and administrators are unfamiliar with students' social circumstances. According to Bireda (2011) the lack of recognition of students' complexities sometimes clashes with what the school wants or expects from them, creating a conflict in which the students end up being criminalized by teachers and administrators.

Statement of the Problem

Education research has not focused on the variables or predictors related to the out of school suspension rate differences among predominantly Black high schools. The importance of identifying the risks related to out of school suspension is based on the impact this disciplinary action may have in the life of the students and their communities. For example according to Lee et al. (2011), exposure to exclusionary discipline outcomes can lead students to feel disengaged from the school and pushed out of the school context. It also has been found that it increases the likelihood of students joining the school-to-prison pipeline as well as other educational risks (Nicholson-Crotty, Birchmeir & Valentine, 2009; Skiba et al., 2014). According to Skiba et al (2014) exclusionary discipline is also related to negative perceptions of school climate, educational opportunities, school engagement, and the increased likelihood of dropout and failure to graduate on time.

Although some research has started to develop some hypotheses about out of school suspensions including different factors related to the schools and the student (Gregory & Mosely, 2004; Kinsler, 2011; Sberna, 2005; Skiba, 2001), they have tended to gravitate around the issue of race and socioeconomic status comparing completely different groups of races and class. At the same time research in this area has shown how Black students are more likely to be

suspended than their White counterparts for the same offense (Bireda, 2010; Davis, Suero & Glenn., 2013; Gibson & Haight, 2013; Gregory et al., 2010; Hemphill et al., 2014; Lee et al., 2011; Skiba et al., 2011). This racial and socioeconomic approach to the disproportionality in out of school suspensions does not take into account how different aspects like class for instance are being excluded putting all Black students under the same category. Another important limitation that exists among those studies is that when comparing Black students with their White counterparts to find that Black students are up to three times more likely to be suspended (Bireda, 2010; Davis, Suero & Glenn., 2013; Gibson & Haight, 2013; Gregory et al., 2010; Hemphill et al., 2014; Lee et al., 2011; Skiba et al., 2011) research has not paid attention to predominantly Black high schools with lower suspension rates than their White counterparts or than schools with similar demographics. It is also important to say that when talking about disproportional suspension rates and the discipline gap, these two concepts are different but they complement each other. While the disproportionality in suspension rates talks about how Black students are suspended more frequently than their White counterparts; the discipline gap explains how that disproportionality does not mean that Black students misbehave or break school rules more often than their White peers; it on the contrary explains how when both groups commit the same infraction they get a different sanction. Basically the discipline gap blames and criminalizes non-White students specially Black and Latinos through disproportional punishment.

Purpose of this Research

The main purpose of this research is to investigate from a socio-ecological perspective the risks factors related to the discipline gap among predominantly Black high schools. The main

purpose can actually be divided into two purposes. One is to investigate the relationship between out of school suspension rates in predominantly Black high schools in Chicago and the students' characteristics, the schools' characteristics and parental contact.

The second purpose of this research is to investigate the contribution of these three group of variables (students' and schools' characteristics and parental contact) in predicting the odds that a predominantly Black high school in Chicago will have an out-of-school-suspension rate above or below the state and with the average suspension rate within the sample. The purpose of using the state suspension rate as a dependent variable to find those predictors and differences that may cause that a predominantly Black high school in Chicago may have higher odds of having out of school suspension rates than other high school in the state of Illinois. Although by doing this analysis having as a reference value the state of Illinois out of school suspension rate; predominantly Black high schools in Chicago are being compared to demographically different types of high schools across the state of Illinois, it gives a starting point to look at some other predictors of out of school suspensions besides race since there are predominantly Black high schools in Chicago suspending below the state's rate. With that said, it gives the opportunity to find what may cause that a predominantly Black high in Chicago increases the odds of having out of school suspension rates above or below a number set by a group of schools demographically different from the schools selected in the sample . Moreover the purpose of using the average suspension rate within the sample as the dependent variable for the second set of regressions was to find those predictors and differences that may cause that a predominantly Black high in Chicago may have higher odds of having out of school suspension rates than other

demographically similar schools. The predictors for this research were divided in three groups: (i) the characteristics of the students, (ii) the school characteristics, and (iii) parental contact.

This study was designed to provide further empirical research about school discipline to promote more assertive and safer policies for school discipline among predominantly Black high schools. Most of the research on school suspensions has focused on documenting race disproportionality in punishment between Black and White students taking into consideration school and student factors to explain or predict that disproportionality or the predictors related to Black students' overrepresentation in the disciplinary system (Gibson & Haight, 2013; Gregory & Mosely, 2004; Gregory et al., 2010, Katz; 1997; Monroe, 2009; Skiba, 2001; Skiba et al., 2011). This study will expand the research on school punishment and discipline by examining school suspension rates and its probable predictors across predominantly Black high school in Chicago. The goal of this work is not to prove that some races are more frequently suspended than others, but to predict the odds of being suspended, what makes the difference in the out of school suspensions between predominantly Black schools using three levels or groups of risks, and how the students' behavior measured through suspension rates is not uniquely related to race but to other factors that build student's behavior and traits.

Research Questions

This research was designed to investigate the following questions:

- Question 1. Do Schools suspending above or below the average suspension rate in the state of Illinois differ in regard to their students' characteristics, school characteristics and parental contact?

Null hypotheses 1: Schools suspending above or below the average suspension rate in the state of Illinois do not differ in regard to their students' characteristics, school characteristics and parental contact.

- Question 2. To what degree can the students' characteristics, school characteristics and parental contact help predict the odds that a predominantly Black high school in Chicago will have out of school suspension rates above or below the state's rate?

Null hypotheses 2: The odds that the rates of out of school suspensions in a predominantly Black high school in Chicago will be above or below the state's rate cannot be predicted by the students' characteristics, school characteristics and parental contact level.

- Question 3. Do Schools suspending above or below the average suspension rate within the sample differ in regard to their students' characteristics, school characteristics and parental contact?

Null hypotheses 1: Schools suspending above or below the average suspension rate within the sample do not differ in regard to their students' characteristics, school characteristics and parental contact.

- Question 4. To what degree can the students' characteristics, school characteristics and parental contact help predict the odds that a predominantly Black high school in Chicago will have out of school suspension rates above or below sample's rate?

Null hypotheses 2: The odds that the rates of out of school suspensions in a predominantly Black high school in Chicago will be above or below the sample's rate

cannot be predicted by the students' characteristics, school characteristics and parental contact level.

Definition of Terms

School-to-Prison Pipeline

For the purpose of this research the concept school-to-prison pipeline is a construct used to describe policies and practices related to school discipline and the juvenile justice system that reduces the probability of success for children, especially for those who are more likely to be suspended increasing the probability of negative life outcomes (Skiba et al., 2014). It basically refers to the contribution of school discipline to juvenile system outcomes (Skiba et al., 2014). This concept refers to how failure in school and exclusion from the educational system can predict life outcomes, making certain groups of students more vulnerable than others (Wilson, 2014). It is called "the causal link between education exclusion and criminalization of youth" (Wilson, 2014, p. 49).

Out-of-School Suspension Rates

The out of school suspension rate is the number of students suspended over the total of students multiplied by one thousand students with the purpose of having bigger numbers easier to read and understand and that will give a better understanding of the number of students being suspended . The concept of out of school suspensions refers to the type of punishment that excludes a student from school for a disciplinary reason for a period of time ranging from one day to ten days (Raffaele Mendez et al., 2002). It does not include students who serve their suspension in the school. This kind of disciplinary outcome is the one that will be considered for

the purpose of this research because it usually occurs in the absence of additional intervention or help to address the implicit psychosocial consequences (Raffaele Mendez et al., 2002).

From a theoretical standpoint, the primary goal of suspension is to decrease or completely reduce the probability that a student commits again a disciplinary infraction (Raffaele Mendez et al., 2002). It does not approach discipline from preventive perspective but from a more punitive one. This approach according to Gibson and Haight (2013) it may increase psychosocial risks in vulnerable children and it promotes feelings of disconnection with the school.

Black students

For the purpose of this research and how data are presented by the Civil Rights Data Collection (CRDC) database, the term Black students does not differentiate between African American students and other Black students.

Sex

During the development of this research and based on how data is presented by the Civil Rights Data Collection (CRDC) the term sex was used only to differentiate between male and female students.

Summary of Chapter I

Chapter I was an introduction and provided an historical framework for the issue of discipline in the American School system. This chapter also discussed the consequences of exclusionary discipline expressed through out school suspensions in U.S. high schools. This chapter also discussed the overrepresentation of Black students in the disciplinary system and the origins and the implementation of Zero Tolerance policy as a determinant for out of school suspensions. The main purpose of Chapter I was to provide contextualization for the current

research, including the statement of the problem, research purpose, research questions, null hypotheses and definition of terms.

CHAPTER II: LITERATURE REVIEW

The purpose of this literature review is to examine the research and the knowledge around out of school suspension and the variables that may contribute to it. This literature review includes relevant research findings on the variables of interest and how they are connected through an ecological social model to out-of-school suspension.

Chapter II is divided into three sections. Section one focuses on punishment in schools and how exclusionary discipline has been influenced by the criminalization of Black students and how it has led to disproportionate rates of out of school suspensions of Black students. Section two focuses on reviewing the social ecological model and how it can be related to the understanding of school discipline. It focuses on how students' behavior and out-of-school suspensions are shaped by different systems and not only by a misunderstood concept of race. Section three reviews the variables that have been found according to other research to be relevant to out-of-school suspension.

Punishment, Criminalization, and Disproportionality in Schools

Discipline has been considered an essential element of the public education system in the United States (Mayworm & Sharkey, 2014; Mowen, 2014). More effective disciplinary practices have always tried to be developed to maintain and promote peaceful learning environments and to ensure the safety of students, teachers and administrators (Nichols et al., 1999; Mayworm & Sharkey, 2014). Disciplinary measures, especially exclusionary discipline techniques, like in school or out of school suspensions have not shown real improvements in school safety; on the other hand, they have increased the discipline and the achievement gap (Gregory et al., 2010) between students of certain races especially between Black and Whites, and have increased the

involvement of Black students in the juvenile justice system, besides some other negative educational outcome like resentment towards the school and drop outs (Gordon et al., 2001; Jones, 2013; Ryan & Godram, 2013; Skiba et al., 2014).

The number of suspensions in American schools have shown a great disproportionality between Black and White students (Bireda, 2010; Davis et al., 2013; Gibson & Haight, 2013; Hemphill et al., 2014; Lee et al., 2011; Skiba et al., 2011). According to Berlak (2005), Steele & Aronson (1995) and Thernstrom and Thernstrom (2003) these differences and disproportions can be founded in the stereotyping and stigmatization of certain racial groups.

A narrow approach to the student behavior and lack of communication between teachers and students has led to disproportionate suspension rates and to the criminalization of the students based on their race (Bireda, 2010; Giroux, 2009; Gregory & Fan, 2011; Skiba, 2001). This distance between teachers and students reflects a lack of closeness and trust between them, which at the same develops less cooperation from Black students with teachers who do not get to know them personally (Gregory & Fan, 2011). Any discussion about disproportionality in disciplinary outcomes among schools must address the disciplinary gap. This concept rests on the over-representation of Black students in U.S. school disciplinary systems and the concern it has generated in both the public mind and academia (Gregory & Mosely, 2004). For this study the disciplinary gap refers to the differential punishment given to Black and White students for the same offense (Gordon et al., 2001; Kinsler, 2011; Hemphill et al., 2014). This consideration of discipline in schools has become a new equity issue and for some scholars a manifestation of cultural misunderstanding between students and school disciplinary rules (Bireda, 2010). Black students are subject to disproportionate rates of school punishments, suspensions and expulsions,

removing these students from the classroom because they are considered to be disruptive to a peaceful learning environment (Gregory et al., 2010; Hemphill et al., 2014). According to Bireda (2010) and Davis et al. (2013) these disproportionate rates that non-White students, especially poor Black students cannot only be explained by the way students look; other variables related to the students and their schools could help explain the existing disproportionality in the suspension rate among schools.

This over-representation of suspensions and the suspensions themselves among Black students have produced feelings of disconnection and negative attitudes toward school, increasing their involvement with the juvenile justice system and finally creating disparities in the career achievement of students of color (Gibson & Haight, 2013).

Giroux argued that the behaviors of the groups being stereotyped and criminalized are an expected response to an oppressive school system where students tend to defy, ignore or resist disciplinary rules and authority figures in order to defend themselves against not just what is happening within the school but also to what may be happening in their families or communities (as cited in Gregory & Mosely, 2004).

Katz (1997) maintained that criminalization is the result of society's uncertainty about what to do with what it cannot accommodate. About this Rodriguez wrote:

What to do with those whom society cannot accommodate? Criminalize them.

Outlaw their actions and creations. Declare them enemy, then wage war.

Emphasize the differences — the shade of skin, the accent in the speech or

manner of clothes. Like the scapegoat of the Bible, place society's ills on them,

then “stone them” in absolution. It’s convenient. It’s logical. It doesn’t work. (as cited in Katz, 1997, p. 78)

According to Giroux (2009) the punishment disproportionality starts with a criminalization process that originates in false perceptions about students based on their appearance or their socio-economic status; it is perpetuated through low-paying and unskilled jobs and an educational system that does not make an effort to give quality education to those considered disposable. This criminalization process gives youth, especially non-White students, few options and reproduces a social dynamic of failure offering limited choices.

Giroux (2009) contended that this criminalization of youth based on their physical appearance and the construction of wrong perceptions has led authorities to target youth with punitive measures. For Giroux (2009) the construction of a youth culture premised on the expectation of violence has led to disciplinary measures based in violent actions of control towards individuals considered violent by nature.

According to Giroux (2009), “those youth who are marginalized by virtue of their race and class bear the burdens of not only the narrow impositions of a market-driven commodified culture but also the harsh experiences of impoverishment and suffering that mark them as disposable and redundant populations”(p. 24). This process of youth criminalization has produced imaginaries about what young people do and how even nonviolent behaviors and misbehaviors become criminalized in the name of safety. This approach toward the maintenance of safety and discipline in schools has widened the disciplinary gap among different groups of students divided not just by socio-demographic characteristics but by the characteristics related to the schools as well (Bireda, 2010).

Another factor that plays an important role in discipline and disproportionality is how teachers handle discipline, especially of Black poor students. Bireda (2010) argued that a misunderstanding of cultural patterns of Black poor students can lead to unnecessary and excessive disciplinary outcomes. Although Bireda refers to certain behavioral patterns as cultural patterns that belong to certain races, for the purpose of this research those behaviors are related not to race but to social class which involves a combination of different factors (Sampson, 2013).

Wildhagen (2012) exemplified further how teachers' own behavior and academic standards can lead them to misinterpret students' behaviors which can end up with a different range of punishments from warnings to suspensions. Wildhagen (2012) illustrated how holding all students to the same standards overlooks and misinterprets the cultural diversity in their schools and classrooms. Behaviors of some Black students of a particular social class, that are reflected or expressed through a collectivistic orientation, a relaxed time orientation, the need to express individuality through the wearing of oversized pants or showing their underwear, are usually unacceptable in a school setting and may be incorrectly attributed to gang affiliation (Bireda, 2010). These aspects of behavior and personal expression can be a disciplinary issue for some Black poor students if they are expected to behave or present themselves as their White counterparts do (Bireda, 2010; McGrady & Reynolds, 2013). When relating behaviors with race, it may lead to misinterpretations of what people do and what to expect from them, especially when race is wrongly understood as a skin color. For the purpose of this research behaviors are not related to race but to social class (Sampson, 2013). This approach erases generalizations in terms of what people with similar physical features do and how they behave.

These misunderstandings or misreading of non-White individuals and social classes have produced social hegemonic beliefs or generalizations and beliefs about what society expects from a certain racial group. This turns into assumptions and wrong interpretations about races and their behaviors. For example, Lee (2005) argued how Whiteness is associated with economic independence and self-sufficiency, while Blackness is associated with “welfare dependency, failure, and depravity” (p.3). Furthermore, Lee (2005) argued how American society associates Whiteness with being a good American while Blackness on the other hand, is considered bad for the country.

The stereotyping of races has produced assumptions about what different groups of students need, verbalized as a certain race is not “good enough” or “book-smart” (Thernstrom & Thernstrom, 2003). This has perpetuated and reinforced the discipline and the achievement gap besides the opportunities between different races. These stereotypes become a barrier to success for those subjected to the stereotyping, creating an extra obstacle to overcome in the form of social stigmatization (Berlak, 2005; Steele & Aronson, 1995).

According to Bireda (2010) racial stereotyping generates a cultural misinterpretation of the manifestations or the behavioral expressions of these groups. It may lead to unnecessary and excessive disciplinary outcomes for students, especially Black students, whose characteristic actions may be seen as threats to the school order. Bireda’s approach do not necessarily helps to explain the disproportionality in suspension rates, because it assumes that Black teachers must have the same values and traits than their Black students.

In addition, according to Cole & Vasquez (2011), school punishment has not only limited its consequences to the academic life of the students; there is a strong relationship

between youth crime and academic and disciplinary issues often related to the removal of students from the classroom, placing Black students in a cycle of failure, depriving them of opportunities to develop good social habits and educational success. To give an example, in the state of Illinois Black male high school dropouts have the highest rate of incarceration among the state's three major race-ethnic groups, Whites, Blacks and Latinos. In 2010, nearly 29% of Illinois' Black male dropouts aged 18 to 34 were incarcerated (Kaba & Patterson, 2011). Kinsler (2011) said that during the 2000 school year "black students comprised 17% of the U.S. student population but accounted for 34% of out of school suspensions" (p.1370). The suspension rate among Black students in the U.S, increased 120% from 1972 to 2000, compared to a 64% increase for White students (Kinsler, 2011). In 2003 almost one in five Black students (19.6%) was suspended, compared to fewer than one in ten White students (8.8%) (Gregory et al., 2010).

For Farmer (2010) this inequality is part of a process of criminalization, where the school provides students an environment that tends to create bias in how students are treated. Farmer (2010) argued:

Schools provide a context or moral space for youth to develop their identity; however, with the racialized ideology, language and practices that promote Black youth criminality, criminalized schools become a racialized, classed, and gendered moral space that feeds into the school-to-prison pipeline. (p.367)

This criminalization tendency especially toward Black youth not only has victimized these particular students but also has created an approach to discipline and punishment that criminalizes the school environment, targeting youth with punitive measures and labeling them as troublesome and disposable. These often stereotypical images and constructions around youth

based on ethnicity, race and class have changed the image of what a school represents, its purpose and how to administrate it.

When talking about out of school suspensions and the criminalization of Black poor students, two aspects become clear; the first is related to the consequences both students and society face when a student is excluded from the educational system, putting them at risk for the development of negative feelings toward education and the likelihood of joining the school-to-prison pipeline (Farmer, 2010; Fenning et al., 2012; Monahan, VanDerhei, Bechtold & Cauffman, 2014). The second aspect is the punishment that Black students disproportionately face, resulting in no proven improvement in school safety and a loss of the educational opportunities that at-risk students need to succeed (Gibson & Haight, 2013; González, 2012; Gregory et al., 2010).

While findings abound about the impact of race in the disproportionality of out of school suspension rates among White and Black students, no research was found that focuses on the variables or risks related to out of school suspensions among predominantly Black high School in Chicago and what is causing the differences among the suspension rates in these particular type of schools.

This study examined the contribution of different groups of variables related to students' characteristics, schools' characteristics and parental contact as predictors of out of school suspension rates in a population of 30 predominantly Black high schools within the CPS system.

The Social Ecological Theory and Out of School Suspensions

For the purpose of this research the variation in out of school suspension across schools shifts from a single variable explanation, in this case race, towards a different set of variables

that contain information about the students' personal traits, the schools own configuration in terms of staff and quality, and the relationship between two of the environments where the student develops, family and school. This approach to understand student's and school's reality is based on Goldstein's (1994) adaptation of Bronfenbrenner's social ecological theory. It focuses on misbehavior and the chances of someone becoming aggressive. For Goldstein (1994) most efforts to better understand and minimize human misbehaviors have focused on the perpetrator and a group of personality and psychoanalytic theories. These approaches have ignored a possible external stimulation to the way institutions or individuals behave.

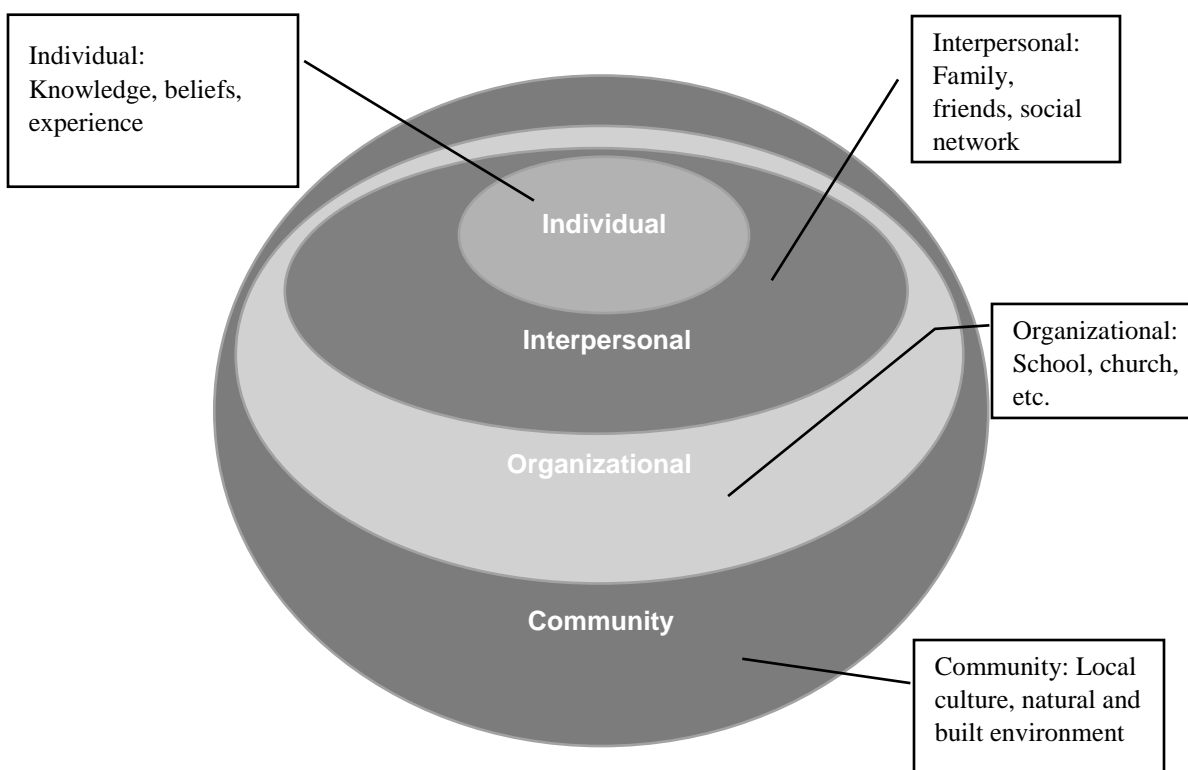
The purpose of using this theoretical approach in this research is not to explain student's behavior but to show how out of school suspensions can be predicted from different groups of variables where some of them are part of the students, others are based on the school academic infrastructure and other are based on the relationship between parents and the school.

For Goldstein (1994) numerous factors influence individual's behavior and what happens around someone's life. From a social ecological perspective on human development an approach to punishment, discipline and youth has to be done differently. This approach focuses on the complexity of the student and the relationships between the individual and specific social, cultural and physical environments where the student lives (Li & Rukavina, 2012). This way of perceiving the student is built on the realities and contexts of the students (Goldstein, 1994). This approach may offer school administrators an alternative tool to administer discipline, one that considers human behavior and achievement within the context of the multiple environments where individuals develop and interact (Goldstein, 1994). Understanding these interactions is the first step toward finding more effective measures to prevent exclusions from the schools besides

promoting peaceful and healthy school learning environments. Removing students from their contexts and ignoring the realities of their encounters produces not only ineffective punitive disciplinary measures but may unintentionally increase violent behavior and resentment in the students or perpetuate victimization (Dickinson & Miller, 2006; Lee et al., 2011; Marshall, 2005).

Citing Lewin (as cited in Goldstein, 1994), human behavior is expressed in terms of two variables, person and environment. How we behave is influenced by both, what is around us and by other people. In this case “environment” refers to all the contexts and systems where human beings develop: their communities, their homes, their work places, their schools, etc., but also their political, cultural, natural and economic situation. The term is also used by Goldstein (1994) as the levels where an individual develops. It refers to the microlevel, the mesolevel, and the macrolevel. This approach to students’ reality and its effect on behavior should, according to Goldstein (1994), affect how schools consider and handle discipline. To better understand a social ecological model around an individual or an institution figure 1 can be used as a guideline.

Figure 1. Social ecological model



According to Viramontez (2004) Bronfenbrenner's ecological model approach places human development within an ecological context. The ecological model considers the interplay between individual, relationships, community and societal factors (Li & Rukavina, 2012). The individual level includes factors like SES, gender, age, of the individual. The relationship level includes relationships with peers, family members, etc. The community level includes different settings, like the school, workplace, neighborhood, etc. The societal level includes social and cultural norms that can be related to health, economy or education (Li & Rukavina, 2012).

The social ecological model emphasis on systems. According to Higgins, Begoray & MacDonald (2009) it shifts from "a focus on single issues, risk factors and linear causality

towards an holistic concern to develop supportive contexts in the places that people live their lives” p. 353. According to Goldstein (1994) it goes beyond the individual and focuses on the person-environment duet or in this case also on the institution-environment duet.

Bogenschneider (1996) argued how important it is for schools to understand how the social ecology changes from one community to another and how not recognizing those realities will lead to inaccurate disciplinary measures and to misunderstand students’ behavior. About this Bogenschneider (1996) explained:

The problems youth face, the etiology of these problems, and the most appropriate responses may differ from one community or neighborhood to the next. Thus, prevention efforts may be more successful if practitioners take time to identify real community or neighborhood issues (p. 130).

According to O’Brien (2007) ignoring the ecology of youngsters offers a narrow approach to punishment and school discipline forgetting about alternative disciplinary measures, including peaceful conflict resolution strategies and restorative justice programs to transform how schools, justice systems and communities respond to misbehaviors, crime and wrongful occurrences. About this Casella (2001) maintained that punishment has been managed with the purpose of changing students’ behavior without considering the contexts and circumstances of their lives or acknowledging their realities, their communities and their families as possible determinant factors in how they behave.

The ecological perspective approaches human behavior within the individual’s personal traits and the contexts and environmental variables where the individuals develop (Benbenishty & Astor, 2005). This dialogue between personal traits and context includes social and physical

variables that could define students' behavior (Benbenishty & Astor, 2005). The ecology of students' behavior is framed in a set of different contexts that may determine a structure of opportunities for groups or individuals, meaning that some of the students' experience in school will defined their approach to life and what they will do in the future (Bireda, 2010).

Human beings or institutions cannot be divorced from their ecology or from what is happening around them or within them; they must be seen and understood within their different contexts, their interests, their abilities, their complexity and their needs. This approach offers a perspective where individuals and institutions cannot all be measured in the same way; when they are equally measured, a gap between them widens (Goldstein, 1994). According to Bireda (2012) a consideration of the ecology of student behavior increases the chance of understanding their reality. This understanding could be translated as an opportunity to deal with their expectations and frustrations so they can be measured according to their differences and strengths and weaknesses.

Some research about school discipline, has examined the use of exclusionary discipline regarding Black students (Davis et al., 2013; Farmer, 2010; Gregory et al., 2010; Gregory & Mosely, 2004; Lee et al., 2011; Sberna, 2005; Skiba, 2001; Sullivan et al., 2013). Different researchers argue that there may be many reasons why schools are suspending students. Those reasons may include, students' socio economic status, race and sex (Skiba, 2001; Hemphill et al., 2014; Monroe, 2006; Skiba, 2001; Sullivan et al., 2013); the perceptions of the teachers about their students (Sberna, 2005); and other factors like school poverty and classroom quality which are related to the quality and experience of the teachers (Thomas et al., 2008). In a study conducted by Hemphill et al. (2014) with data from the International Youth Development Study

(IYDS) with a sample of 3,129 grade 7 and 9 students from Victoria, Australia, and Washington State, United States, found that the causes for student suspensions are not due just to behavior. They found that student and school level factors were related to school suspension including aspects like sex, and the economic status of the school.

Authors agreed that Black students are more likely to be suspended (Hemphill et al., 2014; Kennedy-Lewis, 2013; Kinsler, 2011; Monroe, 2006; Monroe, 2005; Skiba, 2001; Sullivan et al., 2013), but no research has examined suspension disproportionalities among schools with similar demographics. The research I proposed Identified the variables related to the discipline gap among predominantly Black high schools and the variables that will help to predict the odds that a predominantly Black high school suspends above or below the state's suspension rate. Thus, the focus is upon the role of those variables other than race in out of school suspensions

Variable Groups

This section includes the three different groups of variables that will help to achieve the purpose of this research. It includes the student's characteristics, the school's characteristics and the parental contact. These three groups include the variables that have been identified by the literature that may influence out of school suspensions in schools.

Student's Characteristics

This section includes the variables that are part of the student level and that were used in the analysis for the purpose of this research. It gives a description of the variables and how some past research supports them as possible predictors of out of school suspension.

Sex and Race

Research suggests that Black males from a low socio economic status are more frequently the object of exclusionary discipline in schools (Bireda, 2010; Flannery, Frank & McGrath, 2012; Gregory & Mosely, 2004; Hemphill et al., 2014; Monroe, 2005; Monroe, 2006; Skiba, 2001). According to Gregory and Mosely (2004), Black male students are overrepresented in the ranks of disciplined students across the United States, while their White and Asian counterpart are underrepresented in comparison with their enrollment. In addition, research around school discipline and suspensions has shown how the sex of the student is also considered a strong predictor of out-of-school suspensions (Bireda, 2010; Flannery et al., 2012; Gregory & Mosely, 2004; Hemphill et al., 2014; Monroe, 2006; Monroe, 2005; Sberna, 2005; Skiba, 2001).

Sullivan et al. (2013) conducted research consisting of archival student and school-level data for approximately 18,000 kindergarten through 12th grade students from a sample of a Midwestern school district in the U.S. consisting of 39 schools. This research concluded that gender was significantly related to suspension risk. Moreover, Sberna (2005) in a study which sample consisted of 21,505 sixth grade students, 19,675 eighth grade students and 10,297 teachers in 376 schools in Chicago, argued that male students, especially Black students, have been criminalized making them more likely to be suspended or expelled from school.

The criminalization of the male population in schools is rooted in social beliefs about what young people do and how even nonviolent behaviors become criminalized in the name of safety (Cole & Vasquez, 2011; Giroux, 2009). This perception about youth has served as the foundation for the development of crime-based policies designed to control those considered

violent by virtue of their race and sex (Cole & Vasquez, 2011; Giroux, 2009). Even when the number of youth crimes and school violence have decreased (Cole & Vasquez, 2011; Dohrn, 2001), the number of youth incarcerated and the number of youth court cases, especially among non-White male students, has increased along with news coverage of these events (Dohrn, 2001). The process of criminalization of the youth based on their race and their sex has been extended to the school environment and the school disciplinary system, which has led to an overrepresentation of male Black students sanctioned for behavioral issues (Monroe, 2006).

For this research the variable race was not be used as a predictor. This variable is considered as a constant since only predominantly Black high schools are used in the analysis. By turning this variable into a constant it tends to eliminate the bias about race and about what it represents in the disciplinary system and about what society and schools expect from Black high school students.

Socioeconomic Status (SES)

This variable has been measured by some researchers alone or in combination with other variables like parents' level of education, access to resources in the home, and access to Free and Reduced Price Lunch (FRPL) (Sberna, 2005; Skiba, 2011; Sullivan et al., 2013). Skiba (2001) contended that since Black students are overrepresented in lower economic status, their overrepresentation in disciplinary issues is related to class in addition to race.

Futrell (1996) found that schools located in poor and violent communities tend not to focus on academic quality and how to succeed academically because teachers and students need to devote more attention to the maintenance of order than to education and all that it implies. This focus on classroom management could have led to stronger discipline strategies, developing

in the student's feelings of anger and resentment towards education and different figures of authority (Dickinson & Miller, 2006; Lee et al., 2011; Marshall, 2005).

Research conducted by Raffaele Mendez et al., (2002) among 97 elementary schools and 45 high schools in one district of the state of Florida found through a correlational analyses that demographic variables, in particular, socioeconomic status measured through free or reduced price lunch, race, and mobility rate tend to show the strongest positive relationships with suspension rates at individual schools. Also research conducted by Sullivan et al., (2013) found that male, Black, special education students, and students who received free/reduced price lunch were significantly more likely to be suspended.

Noddings (2007) argued that students who must struggle with different social issues cannot be expected to do well in school; their attention is not exclusively on class. Students' concerns over money, and even housing and health insurance, can play a major role in their learning process and behavior. Ignoring important aspects like these in students' lives can lead teachers and school administrators to misinterpret students' actions, causing nonassertive disciplinary outcomes (Bireda, 2010).

Students with Disabilities and Students under Section 504

This group of students, according to the Individuals with Disabilities Education Act (IDEA), includes students identified as having intellectual disabilities, hearing impairment including deafness, speech or language impairment, visual impairment including blindness, serious emotional disorders, autism, orthopedic impairment, traumatic brain injury, developmental delay, specific learning disability, and who, by any other reason, may be eligible to receive special education or services under the IDEA (DiMaria, 2012). It is important to

clarify that based on the way these data are reported by the Civil Rights Data Collection there is no distinction between what can be considered a physical disability and an intellectual learning disability.

IDEA recognizes that a disability is a natural part of the human experience and it does not diminish the right of any individuals to participate in or contribute to society (DiMaria, 2012). Although IDEA approaches the complex relationship between disability and discipline, stating that a child with a disability may display disruptive behaviors characteristic of the child's disability and therefore the child should not be punished for behaviors that are a result of the child's disability (DiMaria, 2012), other studies show the disproportionality in suspension rates among student with disabilities and regular students.

About this Leone et al. (2000) reported that approximately 20% of the students receiving school suspensions were students with disabilities, this represents nearly twice their 11% representation in the population (as cited in Allman & Slate, 2012). Moreover other studies stated that students with emotional and behavioral disorders had the highest suspension rates (Allman & Slate, 2012; Duran, Zhou, Frew, Kwok & Benz, 2011). Another study developed by Krezmien, Leone and Achilles (2006) with suspension data from 1995 to 2003 in Maryland found how the Odds Ratio (OR – possibility of being suspended) for students with disabilities were higher in Black students than other racial groups.

The IDEA amendment of 1997 specifies how schools may discipline these students (Allman & Slate, 2012; Dickinson & Miller, 2006). This amendment permits students to be suspended or moved to an appropriate setting for up to ten days. In the case of what can be considered a major offense, such as bringing a weapon or drugs to school, the allowable

suspension can be up to forty-five days (Allman & Slate, 2012; Dickinson & Miller, 2006). In a study of 400 schools in the U.S., 27% of the principals said that disciplinary procedures for special education students were unfair and 20% said they were burdensome and time-consuming. At the same time, administrators expressed the feeling that local rules setting discipline limits for students harmed their ability to discipline properly (Dickinson & Miller, 2006).

This approach to discipline around students with disabilities has resulted in high suspension rates for special education students based on the lack of knowledge and understanding of their condition and alternative disciplinary measures (Allman & Slate, 2012; Duran et al., 2011).

Students under section 504 according to the CRDC (2014), are those who are receiving special education and/or related assistance and services under Section 504 of the federal Rehabilitation Act of 1973. Students under section 504 are part of the students with disabilities but they are defined as those who receive additional special assistance or services so they can perform their activities as students.

Students with Limited English Proficiency (LEP)

According to the CRDC (2014), these are students aged three through 21 who were not born in the U.S. or whose native language is other than English, who are Native American or Alaska Native, or who come from an environment where the dominant language is not English, who have difficulty reading, writing or understanding English.

Although for researchers LEP students are put under the category of students with disabilities, for the purpose of this research this group of students have their own particular category. LEP students are also reported by the Civil Rights Data Collection database as a

separate category from the students with disabilities since not having English as a dominant language necessarily implies that the student has a disability.

According to Vincent, Sprague and Tobin (2012) categorizing students with LEP as students with learning disabilities has led these students to be more likely to be suspended and expelled from school

A study by Vincent et al. (2012)., that consisted of data on disciplinary exclusions from the classroom identified that for students with Learning Disabilities (LD) and LEP, disciplinary exclusions occurred to a greater extent for violations of school behavioral expectations and rules, in comparison to English proficient students without a disability.

School Characteristics

This section describes all the variables related to the school and that cannot be modified by the students. This level includes teachers' experience, the presence of counselors in the school, and the student-teacher ratio.

Teachers' Experience

Discipline is considered one of the most challenging issues school personnel face and one of the major problems in public education (Benshoff & Poidevant, 1994; Pisacreta, Tincani, Connell & Axelrod, 2011). According to a National Center for Education Statistics study, "more than 40% of teachers reported that challenging behavior interfered with their teaching" (as cited by Pisacreta et al., 2011, p. 243) and did not let them perform their teaching activities correctly. In addition this situation has been positively related to the high levels of stress and burn-out among teachers (Pisacreta et al., 2011).

The financial resources of schools and the economic status of their students have been considered a disadvantage when comparing schools in terms of their quality (Thomas et al., 2008). These disadvantages are usually related to schools' ability to attract teachers with sufficient experience or to the presence of early intervention programs. These intervention programs involve using conflict resolution strategies as alternatives to exclusionary discipline (Bergseth & Bouffard, 2012; Mayworm & Sharkey, 2014; O'Brien, 2007; Sberna, 2005; Thomas et al., 2008). Kinsler (2011) discussed the relationship between teachers' experience and how discipline is handled in the classroom, observing that very strict disciplinary rules may be used to compensate or substitute for teachers' inability to maintain discipline in the classroom. According to Sberna (2005), "teachers with more experience may have had the time to perfect classroom management techniques allowing for more control over classrooms leading to less suspension" (p. 27). That suggests that more teaching experience and confidence could be reflected in less punitive actions and a better learning and more peaceful environment in the classroom. According to Kinsler (2011) the amount of experience teachers have in the classroom it may be reflected in more effective disciplinary approaches. Sberna (2005) argued that more experienced teachers have developed better strategies to manage their classrooms, strategies that rely less on punitive and exclusionary measures for discipline.

Research developed by Hertel (1997) with a sample of 436 public school teachers, where 121 were 9-12 teachers and 25% of the total had 1-10 years, 35% had 11-20 years, and 41% had 21 or more years, found that teachers with 1-10 years of teaching experience had greatest agreement with the statement "Too much punishment is more effective than not enough," and those with 21 or more years of experience had least agreement. The results indicated that there

was a significant difference among years of teaching experience. The post hoc analysis indicated a significant difference in their approach and use of punishment between those with 1-10 years of experience and those with 21 or more years of experience. Also a study conducted by Sberna (2005) found that teacher's experience has a significant positive effect on out-of-school suspensions.

According to Allen (2010), to be a teacher demands a receptiveness to new and changing student and classroom dynamics. Teachers' disciplinary practices and expectations tend to influence students' academic and disciplinary behaviors not just in the classroom but in their communities (Sberna, 2005). Although teachers with more experience may have dealt with more diverse disciplinary situations over the course of their time in the classroom, their disciplinary strategies may not be what students need for a satisfactory learning and disciplinary experience in school. Nevertheless teachers have expressed feeling unprepared in the use of different leadership and management skills regarding curriculum and behavior problems (Allen, 2010, Reinke et al., 2008). These frustrations have led novice teachers either to leave the profession or to feel burnt out, a situation not confined to only new teachers (Allen, 2010).

Effective classroom management has been shown to decrease disruptive behaviors in the classroom and improve academic engagement (Reinke et al., 2008). Likewise, poor classroom management is linked to poor academic performance and negative social and behavioral outcomes for students (Reinke et al., 2008).

However, classroom management is only an approach to control students and maintain order. This narrowly focused differs from Evertson and Harris who argue that classroom

management has changed from describing discipline practices and behavioral interventions to serving a more supportive learning environment (as cited in Allen, 2010).

Another factor that could be related to teachers and the way they handle discipline is their race. Although Bireda (2010) argues that Black teachers tend to be stricter with Black students no evidence in the literature was found to support this statement.

School Counselors and Discipline

Although the administration of discipline is not school counselors' main role, by their presence in schools they become involved in disciplinary actions (Stickel & Satchwell, 1991). The role of a counselor as an advocate for students becomes misunderstood if they are rather sent to the counselor's office after a disruptive behavior instead of being sent to the principal. Remley and Albright have argued that this situation creates a role conflict for the counselor and a mistaken relationship between discipline and counselors among the student population (as cited by Stickel & Satchwell, 1991).

According to Bryan, Day-Vines, Griffin and Moore-Thomas (2012) teachers rely on referring disruptive students to counselors as a discipline alternative to suspension. A mixed method research project conducted by Webb-Rea (2012) found that principals agreed that counselors should be involved in students' discipline, working with them to determine the causes for misbehavior and to develop different strategies to correct or prevent those behaviors.

Metzler et al. (as cited by Sherrod, Getch & Ziomek-Daigle, 2009) have contended that the search for new approaches to deal with school discipline is not just a matter of safety, but of school performance. These approaches are also related to the prevention of issues like substance abuse, delinquent behavior, school failure, sexual risk behaviors, and academic performance (as

cited by Sherrod, Getch & Ziomek-Daigle, 2009). In this regard counselors play an important role in the construction of a preventive disciplinary strategies that impact not just students' personal lives but the general academic performance of schools themselves. Various studies have concluded that exclusionary discipline policies not only have not solved the issues related to students' misbehavior, but have exacerbated these behaviors (Dunn, Getch & Ziomek-Daigle, 2009). According to Dunn et al. (2009), "School counselors can assist in reducing the number of behavior referrals by implementing proven systemic interventions supported by research in the field of professional school counseling" (p.421). School counselors can be perceived as protective factors in preventing misbehaviors and exclusionary discipline outcomes and helping to change disruptive behaviors in school.

Student-Teacher Ratio

While disruptive behaviors may happen in either a large class or a small class (Crabtree, 2002), some incidents are more likely to happen in a large setting where students can get away with otherwise punishable behaviors without being discovered. Molnar et al. (as cited in Fan, 2012) found that smaller classes allow more time for one-to-one instruction, require less time for discipline, and tend to produce a more adequate and stable environment where students are more likely to prosper (D'Angelo & Zemanick, 2009).

Biddle & Berliner (2002) found how students who attend small classes are less likely to have discipline referrals and fewer of them dropped out of school (as cited in McInerney, 2013).

D'Angelo & Zemanick (2009) found in The Twilight Academy Project, a research developed in Pennsylvania with "problematic" students (students who had issues with truancy, were repeatedly suspended or who had repeated the same grade several times), that a small

teacher–student ratio is critical to give to students an atmosphere that offers them more individualized attention, meaning that in order to improve these students’ performance and discipline the size of the class matters. This project also found how other different aspects like the guidance of a counselor and teachers from diverse backgrounds will help to establish better relationships with the students and to improve their behavior and performance.

Parental Contact

This group or category comprises the communication between the parents and the school of their children. It expresses also how much the school relates to the families and the realities of the students. This variable is intended to measure the level of communication between the school and the parents through parental contact. One of the limitations of this variable is that it does not contemplate the diversity from family to family, their complexity and their ecology; it does not take into account aspects like the primary language spoken in the family, their working schedules, etc.

According to the Illinois State Board of Education (2014), this variable includes parent-teacher conferences, parental visits to school, school visits to home, telephone conversations and written correspondence. This variable includes all these kinds of contact but it is represented as a single variable in the data base. Kritsonis (2013) and Hayden (2009) maintained that student behavior problems are best addressed when the parents and the school develop a joint effort. Parents’ presence in the school and in the disciplinary system has been shown to improve students’ behavior and has helped authorities to formulate a plan to address the particular needs of the students (Hayden, 2009). Moreover, Chrisspeels and Rivero (2001) argued, how parents’ engagement with school and their children’s academic activities can mitigate the negative effects

of poverty, a factor some authors have considered a significant predictor of out-of-school suspensions and low academic achievement (Gibson & Haight, 2013; Gregory, et al., 2010; Gregory et al., 2011; Skiba, et al., 2011). Finn claimed that parent concern influences administrators and teachers' decision to suspend a student from the school (as cited in Davis et al., 2013). Davis et al. (2013) argued how when parents monitor, pay attention and are responsible for the behavior of their children, they are less likely to get involved with anti-social behaviors. These characteristics were found to be positively correlated with school engagement and positively associated with classroom conduct and attentiveness. When parents are aware of their children's surroundings in the school and their communities it is reflected in how their behavior and academic achievement benefit (Davis et al., 2013).

Summary

The purpose of Chapter II was to present what research says around out of school suspension and the factors that may contribute to it. It also presented the social ecological model and how students' behavior and out-of-school suspensions are shaped by different levels and not only by a misunderstood concept of race.

CHAPTER III: METHODOLOGY

Introduction

In this chapter, the research procedures and methods that were used for this study are discussed. It includes the description of the population to be included in this research, the measures, the research methods and design. Chapter III is arranged in the following order: (1) description of the participants, (2) variables to be included, (3) data analysis methods, (4) ethics, and (5) summary of chapter III.

Participants

All data for this research came from the school reports of the Civil Rights Data Collection (CRDC) of 2011. Data were analyzed for fiscal year 2011–2012, the latest available information regarding disciplinary outcomes in the city of Chicago. These data were collected by the U.S. Department of Education through the Elementary and Secondary School Survey.

All high schools included in this research are those where students' population is predominantly Black. It included schools where this particular population was higher than or equal to seventy percent (70%) of the total of the student population of the school. It also only included Chicago public high schools with grades 9 through 12. High schools that include other grade-levels were removed from the dataset in order to analyze similar populations. Also excluded from the dataset will be schools that did not report their suspensions.

The type of enrollment for the schools included in this research was different but it did not define a filter or category for the schools in this study to analyze their out of school suspension rates. For the sample selected four (13%) of them did not have information available about the type of admission they have. Six schools (20%) included in the sample accept

automatically students living in the attendance boundary. Fourteen schools (47%) of the thirty schools included admit their students based on a lottery system, and finally six of the schools (20%) included in this research admit their students based on points and tests scores.

The general geographic location of the schools was distributed as it follows: nineteen schools (63%) were located in the South side of Chicago, ten schools (33%) were located in the West side, and one school (3%) was located in the North-West side of the city. Based on this the highest concentration of schools that met the inclusion criteria for this research were generally located in the south side of Chicago.

The CRDC dataset were used for this research because it is an official source containing an extensive variety of variables that are important for the purposes of this research. It is the only official database containing in the same space the outcome variable measured through out-of-school suspensions and the variables that were used as possible predictors. Data concerning parental contact and the percentage of classes not taught by highly qualified teachers are the only predictors that were imported from the dataset of the Illinois State Board of Education (ISBE). All the information from this database was converted into an Excel file and then into an SPSS file for analysis.

Variables Description

Dependent Variable

Out-of-School Suspension rates

As previously stated, administrators have used out-of-school suspensions as a way to keep what they consider problematic students out of the schools, which negatively affects both students and the learning environment (Dickinson & Miller, 2006; Raffaele Mendez et al., 2002;

Ryan & Goodram, 2013; Skiba, 2014). This practice has increased the likelihood that suspended students, especially Blacks, eventually will join the school-to-prison pipeline, among other negative consequences (Fenning et al., 2012; Flannery et al., 2012; Gibson & Haight, 2013; Gregory et al., 2011; Hemphill et al., 2014; Nicholson-Crotty et al., 2009; Ryan & Goodram, 2013).

The out-of-school suspension variable for this research will be considered as a dichotomous variable where one group is represented by schools predominantly Black and who have reported out-of-school suspension rates above the state's rate. This group of schools was coded as number one (1). Schools reporting out-of-school suspensions below the average was coded as number zero (0).

The dependent variable was also represented by schools predominantly Black and who have reported out-of-school suspension rates above the sample's average suspension rate. This group of schools was coded as number one (1). Schools reporting out-of-school suspensions below the sample's average suspension rate were coded as number zero (0).

Independent Variables

The predictors, or independent variables, were divided into three groups. The first group is called the student level risks and it was conformed by the characteristics of the students. The second group is called the school level risks and it comprised the characteristics of the school; it included variables that can be controlled by the school, unlike the other group of independent variables. Group three concerns parental contact; it describes how schools stay in touch with parents but not how parents stay in touch with them, nor how strong or effective the contact is.

Group One: Student's Characteristics

Socioeconomic status. This variable was measured through the percentage of students who were eligible for Free and Reduced Price Lunch (FRPL). It is directly related to the student's household income (Gregory et al., 2010; Lee et al., 2011; McGrady & Reynolds, 2013; Monroe, 2013; Raffaele Mendez et al., 2002; Ryan & Goodram, 2013; Sullivam et al., 2013; Thomas et al., 2008). Although this variable is relatively similar among the schools included in this research and may represent a fairly homogenous population, it was the only measurement available to identify students' economic status.

Students with disabilities (SD). This variable represents the percentage of students that may be eligible to receive special education in the school under the Individuals with Disabilities Education Act (IDEA). The way these data are presented by the CRDC does not make a difference between the different kinds of disabilities a group of students may have. It puts all students either they have a physical or a learning disability under the same category.

Students with limited English proficiency (LEP). This variable according to the CRDC represents the percentage of students who are ages 3 through 21, who were not born in the United States or whose English is not their native language, those who are a Native American or Alaska Native, or a native resident of the outlying areas; and who come from an environment where languages other than English have a significant impact on their level of language proficiency; or who are migratory, whose native languages are a language other than English, and who come from an environment where languages other than English are dominant; and whose difficulties in speaking, reading, writing, or understanding the English language may be sufficient to deny the individuals the ability to meet the state's proficient level of achievement on

state assessments; the ability to successfully achieve in classrooms where the language of instruction is English; or the opportunity to participate fully in society.

Students under section 504. According to the CRDC a student under section 504 is “an elementary or secondary student with a disability who is being provided with special education and/or related aids and services under Section 504 of the Rehabilitation Act of 1973, as amended, and is NOT being provided with services under the Individuals with Disabilities Education Act (IDEA)”. These are the percentage of students who receive additional special aids or services so they can perform their activities in the school.

Group Two: School Characteristics

Percentage of full time equivalent (FTE) of classroom teachers in their second year of teaching. This variable showed the percentage of teachers in the school with only two years of teaching experience, since that could be considered a teacher with low experience. The percentage of teachers in their first year was not considered to avoid multicollinearity issues between these two variables. CRDC reports only two groups regarding the experience of the teachers: (1) teachers in their first year of experience and (2) teachers in their second year of experience. According to the CRDC (2014) this variable was measured through “the number of year(s) of teaching experience including the current year but not including any student teaching or other similar preparation experiences. This experience includes teaching in any school, subject, or grade; it does not have to be in the school, subject, or grade that the teacher is presently teaching”.

Percentage of classes not taught by highly qualified teachers. This variable was imported from the Illinois State board of education data base. It measures the percentage of

classes in a school that are not taught by qualified teachers, it means those that do not have all the credentials or may be teaching areas where they are not certified.

School counselors. This variable was measured through the number of counselors per school. For the purpose of this research it was transformed to the rate for every 300 students.

Student-teacher ratio. This variable was measured through the number of students for every teacher in a high school classroom.

Group Three: Parental Contact

Degree of parental contact. The degree of parental contact was measured through a percentage which includes parent-teacher conferences, parental visits to school, school visits to home, telephone conversations and written correspondence. This variable only represents one direction of communication. It means that it only shows the communication in the direction of the school towards the parents. This variable does not reflect the efforts of the parents to get in touch with the school

Data Analysis

This research developed a quantitative analysis for the data available that met the inclusion requirements for this study. The only data used were collected from Chicago public high schools with grades 9 through 12. It did not include charter schools. High schools that include other grade-levels were removed from the dataset in order to analyze comparable populations. Also excluded from the dataset were schools that did not report their suspensions. All high schools included are those in which the students population is predominantly Black. It included schools where this particular population was higher than or equal to seventy percent (70%) of the total of the population of the school. The percentage was set randomly since it can

be considered as a high number where the other groups could only be represented through a 30% left.

Before running the analysis, the variables were tested for multicollinearity. This process helped to identify if there were variables that are redundant (overlapping between predictors) and needed to be combined. Multicollinearity can also be defined as a situation where there is a strong correlation between two or more predictors in a regression model (Field, 2009). Therefore, a Tolerance and VIF test were run to identify if there is multicollinearity within the independent variables. If there is a problem with multicollinearity it indicates that there is an overlap between predictors (Leech et al., 2011). In case this situation happens with some of the variables they could be combined if that combination makes conceptual sense. For this research the percentage of teachers in their first year of teaching was creating issues of multicollinearity. For that reason it was eliminated from the predictors and only the percentage of teachers in their second year was considered.

Methods

Descriptive data analysis on the variables in the study was conducted. To consider the first research question (What is the association between out of school suspensions and the students' characteristics, school characteristics and parental contact?) and to test null hypotheses number 1 a Chi-square analysis was conducted. To consider the second research question, (To what degree the students' characteristics, school characteristics and parental contact can help predict the odds that a predominantly Black high schools in Chicago will have out of school suspension rates above or below the state's average? a logistic regression analysis was conducted. These tests

were selected for the purpose of this research since data were not normally distributed meaning that non-parametric tests needed to be used.

For the purpose of this research I set a confidence level of 95% with an α value of 0.05. This value means that for a result to be statistically significant only 5% of the cases may happen by chance.

Chi-Square Analysis

Chi-square analysis was used to determine if there was a relationship between two categorical variables. This method compares the frequencies observed in certain categories to the frequencies expected in those categories by chance (Field, 2009).

For the purpose of this research, chi-square testing was used to describe the relationship between out-of-school suspension rates and the predictor or independent variables.

According to Morgan, Leech, Gloeckner and Barret (2013), Chi-square testing provides information about relationships among variables. It reveals if the relationship is statistically significant but it does not describe the effect. For this analysis, independent variables will be recoded in dichotomous variables; one group will be defined as those values above the mean within the sample and the other group as those values below the mean. Depending on the variable, its value could be coded as 1 or 0 depending on whether they are above or below the mean, and if they represent a risk or not for higher rates of suspension. Variables whose values could represent a risk were coded as 1, and those whose values could not represent a risk were coded as 0.

Logistic Regression Analysis

This analysis examined the rate of out-of-school suspensions in predominantly Black Chicago public high schools as a dichotomous variable. For this reason a linear regression is not appropriate. Linear regression models depend on a continuous and normally distributed outcome variable (Sberna, 2005). Logistic regression models are useful when the purpose of the research is to predict a categorical variable within a group of independent variables or predictor variables. This type of analysis is also helpful when some of the predictor variables are dichotomous; other variables in the analysis can be numeric or categorical (Leech, Barrett & Morgan, 2011).

Logistic regression instead of predicting the value of a dependent variable from among predictor variables or a group of variables, predicts the probability of the occurrence of the dependent variable. This type of analysis is also helpful when some of the predictor variables are dichotomous. At the same time other variables in the analysis can be numeric or categorical (Leech, Barrett & Morgan, 2011).

A model for logistic regression can be written as:

$$\text{Log} \left(\frac{p}{1-p} \right) = b_o + b_1x_1 + \dots + b_nx_n$$

Where p is the probability (risk) that the event will occur. The predictors or independent variables are represented with the letter x and their respective coefficients are represented by the letter b. The last equation can be rewritten as:

$$P(Y) = \frac{1}{1 + e^{-(b_o + b_1x_1 + \dots + b_nx_n)}}$$

It can be read as the probability of Y occurring in function of the independent or predictor variables (Field, 2009). Based on that, each school in the sample either has the

probability to suspend above the average or to have the probability to have suspension rates below the average.

The regression analysis for this research consisted of four regression models. The first model included just the variables related to the category of the students' characteristics. The second model included variables in group 1 (students' characteristics) and variables in group 2 (school's characteristics). The third model included the variables in group 1 (students' characteristics), the variables in group 2 (school's characteristics), and group 3 (parental contact). Model 4 was conducted using only the variables that were only statistically significant.

The results of a logistic regression were read as odds. It means that for every increase in one unit in the independent variable, there will be an increase or decrease in the probability of success for the dependent variable.

Limitations of the Study

For the development of this research some limitations were encountered. Some of the limitations this study faced is the way data were reported by the official databases, especially regarding two categories: the percentage of disabilities because it does not make a difference between the different kinds of disabilities that students may have. Also, although the race variable was not used in this study as a variable, it is a category that does not differentiate between all the different students that may be considered Black. At the same time the variable called parental contact showed only a one way communication established. It only showed how the school try to get in touch with the parents. It did not express if the contact was successful neither if the parents try to contact the school. In terms of the methodology and the tests conducted although some assumptions were tested like for example the multicollinearity of the

variables, other assumptions for an ideal logistic regression could not be tested since the type of data did not allow it. However the purpose of this study is not to extrapolate or generalize its findings. The results are only for the schools included in this research and the conclusions are only applied to the thirty schools included in the sample. It is also important to have in mind that a statistical relationship is not necessarily a cause, so although a variable is found to be statistically significant it does not necessarily means that the phenomena can be totally explained by it.

Ethics

For the development of this research no individual or institution will be contacted. The data that were analyzed to develop this research are available through public access and is freely available on the internet. The data sources used for this research will not compromise the integrity of any living subject or put any individual at risk. This research does not represent any psychological, physical, social, economic or legal risk to the schools that are part of this research.

The development of this research does not pose any negative or potential late effects in any individual. In this case it does not pose any negative or late effect to the schools since they are considered the unit of analysis for this study. All the data analyzed will be saved in the personal computer of the principal investigator, guaranteeing that no one else has access to the information contained there. Files will be deleted two years after the analysis is developed and in the meantime they are protected by a password known only to the principal investigator.

Summary

The purpose of Chapter III was to describe the methods that were used for this study. This chapter reported the type of population, the variables were the data come from and the type of methods that were used in this study. It also showed the limitations of the variables included in the analysis

CHAPTER IV

Results

The following section shows the results for all the different statistical tests used in order to analyze the data in this research. The first part shows the descriptive analysis of the data (table 1), the normality test (table 2), the multicollinearity tests (table 3), and the T-test (table 4). The second part shows the results from the Chi-Square test (table 5 and table 6), and the logistic regressions (table 7 and table 8) using first the out of school suspension rate of the state as the reference value to categorize the dependent variable. Then the average suspension rate within the sample was used to categorize the dependent variable.

Descriptive Statistics

Table 1

Descriptive statistics

Variables	N Number of school	Minimum %	Maximum %	Mean	Std. Deviation
Male	30	36.3	62.1	49.68	6.68
% Students with disabilities	30	5.5	28.0	18.55	6.46
% Students under section 504	30	0.0	3.6	1.04	0.76
% Limited English Proficiency	30	0.0	4.4	0.66	1.075
% Free and reduced price lunch	30	74.2	100.0	95.16	5.93
% Full Time Classroom Teachers in 2nd Year of Teaching	30	0	36	7.26	9.82
Counselor rate/1000 students	30	0.0	8.7	3.61	2.23
Student to teacher ratio	30	11:1	17:1	13.1: 1	2.25
% of Classes Not Taught by Highly Qualified Teachers	30	0.0	15.4	3.62	3.85
Parental contact	30	44.1	100.0	81.44	15.99
Suspension rate/1000 students	30	15.4	287.1	208	58.9
Valid N	30				

Thirty predominantly Black public Chicago high schools (9-12 grade) who reported their suspension rates to the CRDC are included in this research. According to the demographic information of the 30 schools included in this research, it showed that the minimum percentage of students among the high schools selected that were males was 36.3% and the maximum was 62.1%, with a mean of 49.68 (SD=6.68). The minimum percentage of students receiving free and reduced price lunch was 74.2% and the maximum was 100%, with a mean of 95.16% (SD=5.93). The percentage of students with disabilities among the high schools selected ranged between 5.5% and 28%, with an average of 18.55 (SD=6.46). The minimum percentage of students under

section 504 was 0% and the maximum was 3.6%, with the average percentage being 1.04% (SD=0.76). The percentage of students with limited English proficiency ranged between 0% and 4.4%, with an average of 0.66% (SD=1.074). The minimum percentage of full time equivalent teachers in their second year of teaching was 0% and the maximum was 36%, with an average of 7.26% (SD=9.82). The rate of counselors for every 1000 students ranged between 0 and 8.7, with an average of 3.61% (SD=2.14). The students to teachers ratio ranged between 11 students teacher and 17 students per teacher, with an average of 13.1 (SD=2.25). The minimum percentage of classes not taught by highly qualified teachers was 0% and the maximum was 15.4%, with an average of 3.617% (SD=3.85). The minimum percentage of parental contact was 44.1% and the maximum was 100%, with an average of 81.44% (SD=15.9). See Table One for a complete report of the demographic variables of the participants.

Test of Normality

To test the normal distribution of the data used in this research the Shapiro-Wilk test was used since this is a test more frequently used for small samples (Field, 2009). The Shapiro-Wilk test is based on the correlation between the data and the corresponding normal scores and provides better power than the Kolmogorov-Smirnov test. The concept of power expresses the ability to detect whether a sample comes from a non-normal distribution. The null-hypothesis of this test is that the population is normally distributed. For that reason when a p-value is found to be higher than 0.05 (not statistically significant) the null hypothesis is failed to be rejected meaning that the variable has a normal distribution.

Table 2

Test of normality

Variables	Shapiro-Wilk Sig.
Male	.631
% Students with disabilities	.015
% Students under section 504	.000
% Limited English Proficiency	.000
% Free or reduced price lunch	.000
% Full Time Classroom Teachers in 2nd Year of Teaching	.000
Counselor rate/1000 students	.127
Student to teacher ratio	.000
% of Classes Not Taught by Highly Qualified Teachers	.001
Parental contact	.026
Suspension rate/1000 students	.001

For this test the Shapiro-Wilk test was conducted in order to evaluate the normality of the variables. Shapiro-Wilk measures whether a distribution of scores is significantly different from a normal distribution. It means that a significant value indicates a deviation from normality. This test was chosen since it is more appropriate for small samples ($N < 50$) since it is affected by large samples where small deviations from normality yield significant results (Field, 2009).

Based on the results from this test the Sex variable expressed as the percentage of male students in the school has a normal distribution with a significance of 0.631 and the counselors' rate variable has a significance of 0.127. It means that the null hypothesis that there is no difference between a normal distribution and the distribution of the variable is not violated for these two variables. However since the rest of the variables do not have a normal distribution, non-parametric test were selected to be conducted for the analysis.

Multicollinearity

Table 3

Test of multicollinearity

Variables	Collinearity Statistics	
	Tolerance	VIF
Male	.55	1.8
% Students with disabilities	.53	1.89
% Students under section 504	.72	1.37
% Limited English Proficiency	.76	1.31
% Free or reduced price lunch	.74	1.34
% Full Time Classroom Teachers in 2nd Year of Teaching	.75	1.34
Counselor rate/1000 students	.76	1.31
Student to teacher ratio	.34	2.96
% of Classes Not Taught by Highly Qualified Teachers	.62	1.60
Parental contact	.74	1.35

According to Field (2009) there are some guidelines to decide if there is a problem with multicollinearity: (1) If the largest VIF (Variation Inflation Factor) value is greater than 10 there is cause for concern, (2) if the average VIF is substantially greater than 1, (3) if tolerance is below 0.1, and (4) if tolerance is below 0.2. When testing for multicollinearity the results are similar when using the state suspension rate or the average suspension rate within the sample as the dependent variable.

For the current model the VIF values are all below 10, the tolerance statistics are all above 0.2 and the average VIF is 1.63, which is a value that can be considered close to 1; therefore it can be concluded based on these arguments that there is no collinearity within the data.

One Sample T-Test

In order to determine if the average suspension rate within the sample was statistically different from the average suspension rate of the state of Illinois, a one sample t-test was conducted. It compared the mean of the sample (208 out of school suspensions for every 1000 students) with the average of the state of Illinois (63.1 out of school suspensions for every 1000 students). This test has the ability to determine if the state is suspending substantially less than the sample in this study.

The state's rate was calculated based on 2011 enrollment of high school students in the state of Illinois according to the Illinois State Board of Education (635,628 students) and the number of students suspended the same year (40,146) based on the Illinois School Success Task Force Report. This last value was divided by the enrollment number and multiplied by 1000 to get the suspension rate for every 1,000 students. The value obtained for the state's rate was 63.1 suspension for every 1000 students.

Null hypothesis: it assumes that there are no significant differences between the population mean and the sample mean, for this case between the State of Illinois and the sample.

Table 4

Results of One-sample t-test for suspension rates for every 1000 students

Suspension rates/1000 students	StateTest Value = 63.1			
	t	df	Sig. (2-tailed)	Mean Difference
	13.5	29	.000*	144.9

* $p < .05$.

Chi-Square Test for State's Suspension Rate

A chi-square statistic test was conducted to investigate whether schools suspending below the state's rate (0) and schools suspending above the rate (1), differ on whether they have different students' characteristics, school characteristics and percentage of parental contact below or above the average within the group.

For this test there were no variables that were found to be statistically significant. This means that the null hypotheses (Schools suspending above or below the average suspension rate in the state of Illinois do not differ in regard to their students' characteristics, school characteristics and parental contact) failed to be rejected. This result may have been influenced according to King and Zeng (2001) by the small number of cases in the dependent variable that were suspending below the state's rate (<50%).

Chi-Square Test Average Suspension Rate within the Sample

To investigate whether schools suspending below the sample's average rate (0) and schools suspending above the average rate (1) differ on whether they have a percentage of students with disabilities below or above the average within the group, a chi-square statistic was conducted. The average suspension rate within the sample was 208 students for every 1000 students. After running the test, the percentage of male students the percentage of students with disabilities was found statistically significant.

For tables 5 and 6 n means the number of cases in each group, X^2 means the value of Chi-square, and p represents the significance of the variable in the test. A p-value equal or lower than 0.05 means that there is a relationship that is statistically significant between the variables that are being analyzed.

Table 5.

Chi-Square test for the percentage of male students and sample's average suspension rate

Variable	n	Suspension Groups		X^2	p
		0 Below Average	1 Above Average		
Group % Male students	14	9	5	4.7	0.030*
Below the average within the group					
Above the average within the group	16	4	12		
Totals	30	13	17		

* $p < .05$.

Table 6.

Chi-Square test for the percentage of students with disabilities and sample's average suspension rate

Variable	n	Suspension Groups		X^2	p
		0 Below Average	1 Above Average		
Group Students with disabilities				4.34	0.037*
Below the average within the group	10	7	3		
Above the average within the group	20	6	14		
Totals	30	13	17		

* $p < .05$.

Table 5 indicates that suspension group 0 (schools suspending below the sample's average rate) and suspension group 1 (schools suspending above the sample's average rate) are

significantly different on whether they have a percentage of male students above or below the average within the group. Schools suspending above the average are more likely to have higher percentage of male students. Basically it means that 12 schools out of 16 schools that have a percentage of male students above the average have suspension rates above the average, versus just 5 schools out of 14 schools that have a percentage of male students below the average that have suspension rates above the average.

Table 6 shows that suspension group 0 (schools suspending below the sample's average rate) and suspension group 1 (schools suspending above the sample's average rate) are significantly different on whether they have a percentage of students with disabilities above or below the average within the group. Schools suspending above the average are more likely to have higher percentage of students with disabilities. In other words 14 schools out of 20 schools that have a percentage of students with disabilities above the average have suspension rates above the average, versus just 3 schools out of 10 schools (30%) that have a percentage of male students below the average that have suspension rates above the average.

Logistic Regression for State's Suspension Rate

This analysis was conducted to answer the question, to what degree can the students' characteristics, school characteristics and parental contact help predict the odds that a predominantly Black high school in Chicago will have out of school suspension rates above or below the state's rate?. For this purpose three models were conducted to identify the significant predictors and the way they behave when the groups or categories are added one by one. The value identified as the ExpB (Exponential of the Beta coefficient) represents the number of times the probability that a school suspends above the out of school suspension rate of the State of

Illinois. The value identified as Sig (Significance) shows if the variable was found statistically significant, meaning that when using a particular variable as a predictor of the dependent variable its ability to predict the outcome variable does not happen by chance. See table 7 for results.

Model 1. A logistic regression was conducted including only the variables in group 1 (students' characteristics). Those variables were: Sex, percentage of students with disabilities, percentage of students under section 504, percentage of students that have limited English proficiency, and the percentage of students that apply for free and reduced price lunch. This model was conducted to identify if these variables significantly predicted whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the state's rate.

Model 2. A logistic regression was conducted including the variables in group 1 (students' characteristics) and variables in group 2 (school's characteristics). This model was conducted to identify if variables in group 1 in combination with group 2 significantly predicted whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the state's rate.

Model 3. A logistic regression was conducted including the variables in group 1 (students' characteristics), the variables in group 2 (school's characteristics), and group 3 (parental contact). This model was conducted to identify if variables in group 1 in combination with group 2 and 3 significantly predicted whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the state's rate.

Table 7.

Logistic regression for state's suspension rate

Variables	Model 1	Model 2	Model 3
	<u>B/EXP B</u>	<u>B/EXP B</u>	<u>B/EXP B</u>
	Sig	Sig	Sig
Male	2.013/7.48 0.999	2.95/19.1 0.998	2.34 /10.42 0.999
% Students with disabilities	1.94/6.95 0.999	1.78/5.98 0.999	0.244/1.28 1
% Students under section 504	-19.1/0.000 0.998	-3.39/0.034 1	2.68/14.55 1
% Limited English Proficiency	-11.49/0.000 0.998	-5.66/0.003 0.999	-1.3/0.273 1
% Free and reduced price lunch	1.91/6.77 0.997	2.53/12.54 0.998	2.83/16.884 0.999
% Full Time Classroom Teachers in 2nd Year of Teaching		-0.25/0.78 1	0.132/1.142 1
Counselors rate %		0.583/1.79 1	0.485/1.625 1
Student to teacher ratio		8.62/5512.54 0.999	5.411/223.758 0.999
% of Classes Not Taught by Highly Qualified Teachers		-0.36/0.695 1	-0.95/0.388 1
Parental contact			0.484/0.616 0.999

Notes. B=Beta coefficient, ExpB=Exponential of the Beta coefficient (odds ratio),

*Sig=significance value < .05.

After conducting the first three regression models no variable was found statistically significant to conduct a fourth model. The significance value did not show a significant variation in each variable after combining the different group of variables. Although like stated before

none of the variable was found to be statistically significant, when combining the variables in group 1 (students' characteristics) with the other groups the exponential of the beta coefficient (the odds ratio) decreases. For example when the percentage of male students in the school is part of the regression model only with the variables in the same group, it has an odds ratio of 7.48. This odds ratio is obtained by taking the exponential of beta $[\text{Exp}(B)]$. In this instance, the beta coefficient for sex is 2.01, thus $[\text{Exp}(2.01)] = 7.48$. This indicates that the odds of out of school suspensions above the state's rate increases 7.48 times when increasing in one unit (one percent) the percentage of male students. Basically it says that when you increase in one percent the percentage of male students in a school the odds that this school suspends above the out of school suspension rate of the State of Illinois will increase 7.48 times. Then with combining this variable with the variables in the school's characteristics group the odds ratio goes up to 19.1, but when adding parental contact in the third model it goes down to 10.42. A different situation happens with the percentage of students with disabilities in the school. It showed an odds ratio of 6.95 which indicates that when increasing in one unit (one percent) the percentage of students with disabilities the odds that a school will have out of school suspensions above the state's rate increases 6.95 times. Then when adding variables in group 2 and group 3 it varies to 5.98 and 1.28 respectively. It basically shows that this variable loses some prediction ability when adding variables from the other groups. Moreover the percentage of students receiving free and reduced price lunch has an odds ratio of 6.77 when it is included in the model only with variables from group 1. This value indicates that when increasing in one unit the percentage of students with disabilities the odds that a school will have out of school suspensions above the state's rate increases 6.77 times. Then when adding variables in group 2 and group 3 it varies to 12.54 and

16.88 respectively. It shows that this variable increases the odds that a school suspends above the State of Illinois when adding variables from the other groups.

Table 7 shows that none of the variables included in this model was found to be a predictor of out of school suspensions when using as dependent variable the suspension rate in the State of Illinois. Basically it says that the odds that a school in the sample has suspension rates above the state reference value (63 suspensions for every 1000 students) is based on chance.

Logistic Regression Average Suspension Rate within the Sample

This analysis was conducted to answer the question, to what degree can the students' characteristics, school characteristics and parental contact help predict the odds that a predominantly Black high school in Chicago will have out of school suspension rates above or below the sample's average suspension rate?. See table 8.

Model 1. A logistic regression was conducted including only the variables in group 1 (students' characteristics). Those variables were: Sex, percentage of students with disabilities, percentage of students under section 504, percentage of students that have limited English proficiency, and the percentage of students that apply for free and reduced price lunch. This model was conducted to identify if these variables significantly predicted whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the sample's average suspension rate.

Model 2. A logistic regression was conducted including the variables in group 1 (students' characteristics) and variables in group 2 (school's characteristics). This model was conducted to identify if variables in group 1 in combination with group 2 significantly predicted

whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the sample's average suspension rate.

Model 3. A logistic regression was conducted including the variables in group 1 (students' characteristics), the variables in group 2 (school's characteristics), and group 3 (parental contact). This model was conducted to identify if variables in group 1 in combination with group 2 and 3 significantly predicted whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the sample's average suspension rate.

Model 4. A logistic regression was conducted including the variables that were found to be statistically significant from the first three models. This model was conducted to identify if these variables in combination with each other significantly predicted whether or not a predominantly Black high school in Chicago will have out of school suspension rates above or below the sample's average suspension rate.

Table 8.

Logistic regression average suspension rate within the sample

Variables	Model 1	Model 2	Model 3	Model 4
	<u>B/EXP B</u>	<u>B/EXP B</u>	<u>B/EXP B</u>	<u>B/EXP B</u>
	Sig	Sig	Sig	Sig
Male	0.12/1.12 0.19	0.21/1.23 0.094	0.20/1.22 0.09	-
% Students with disabilities	0.21/1.24 0.031*	0.33/1.40 0.018*	0.33/1.39 0.032*	0.21/1.23 0.012*
% Students under section 504	- 0.21/0.82 0.73	-0.43/0.65 0.521	-0.76/0.47 0.345	-
% Limited English Proficiency	- 0.29/0.75 0.46	-0.24/0.79 0.645	-0.11/0.89 0.84	-
% Free and reduced price lunch	- 0.09/0.91 0.96	-0.09/0.91 0.404	-0.07/0.94 0.67	-
% Full Time Classroom Teachers in 2nd Year of Teaching		0.03/1.03 0.596	0.02/1.02 0.73	-
Counselors rate %		-0.25/0.77 0.405	-0.28/0.76 0.37	-
Students to teachers ratio		0.456/1.58 0.241	0.51/1.67 0.22	-
% of Classes Not Taught by Highly Qualified Teachers		-0.17/0.84 0.305	-0.21/0.82 0.25	-
Parental contact			- 0.046/0.96 0.64	-

Notes. B=Beta coefficient, ExpB=Exponential of the Beta coefficient (odds ratio),

**Sig=significance value < .05.*

After conducting the first three regression models only the percentage of students with disabilities variable was found statistically significant to conduct a fourth model. For this

variable when the percentage of students with disabilities in the school is part of the regression model only with the variables in the same group, it showed an odds ratio of 1.24. This odds ratio is obtained by taking the exponential of beta $[\exp(P)]$. In this instance, the beta coefficient for the percentage of students with disabilities is 0.21, thus $[\exp(0.21)] = 1.24$. This indicates that the odds that a school will have out of school suspensions above the sample's average suspension rate increases 1.24 times when increasing in one unit the percentage of students with disabilities. Another way to interpret this finding is through percentage change. Percentage change comes from the formula $[\exp(B)-1] * 100$. For the case of students with disabilities, the odds of out of school suspension are $[\exp(0.21)-1] * 100 = 24\%$ higher when you increase in one unit (one percent) the percentage of students with disabilities in predominantly Black high schools in this sample. Then with combining this variable with the variables in the school's characteristics group the odds ratio goes up to 1.40, it that indicates that when increasing in one unit (one percent) the percentage of students with disabilities the odds that a school will have out of school suspensions above the sample's average suspension rate increases 1.40 times. Meaning that when a school increases in one percent the percentage of students with disabilities its odds of having higher out of school suspension than the other schools in the sample increase 40% or 1.4 times. When adding parental contact in the third model it goes down to 1.39 which means that it basically stays constant. Moreover when a logistic regression is conducted only with the percentage of students with disabilities its significance is 0.012 and its odds ratio is 1.23. This value indicates that when increasing in one unit (one percent) the percentage of students with disabilities, the odds that a school has out of school suspensions above the sample's average suspension rate increases 1.23 times or 23%.

Although the percentage of male students was not found statistically significant, when this variable is in a regression with the other variables of group 1 it showed an odds ratio of 1.12. This indicates that the odds that a school will have out of school suspensions above the sample's average suspension rate increases 1.12 times when increasing in one percent the percentage of male students. Then with combining this variable with the variables in the school's characteristics group the odds ratio goes up to 1.23 times, and when adding parental contact in the third model it keeps the same value. It means that when the percentage of male students increases in one percent the odds of a school having out of school suspensions above the sample's average suspension rate increases 1.23 times or 23%.

CHAPTER V: DISCUSSION

After conducting different statistical analysis for this research, it was found that through a Chi-Square test when comparing the independent variables or predictors with the out of school suspension rates of the State of Illinois schools there is a statistically significant difference between the school suspending below the state's rate and schools suspending above the state's rate on whether they have a percentage of students with disabilities above or below the average within the sample. When conducting the same test, but instead of using the state's rate but the suspension rate average within the sample, it was found that there is a statistically significant difference between the school suspending below and above the sample's average rate on whether they have a percentage of male students and students with disabilities above or below the average within the sample. Meaning that schools in the sample with higher percentage of male students have more out of school suspensions. This situation is also observed with schools with higher percentage of students with disabilities. It basically says that schools with more male students and more students with disabilities have significantly more suspensions than those schools with a lower number of out of school suspensions.

After conducting a logistic regression to find how the independent variables may predict the odds that a school will have out of school suspensions above or below the state of Illinois suspension rates it found that no independent variable was statistically significant a predictor of the dependent variable after conducting three different models. Most of the variables have significance values (p-values) close to 1, meaning that based on the independent variables included in the model the behavior of the dependent variable is based on chance. It means that the variables included in the model do not have the ability to predict the odds that a school

suspends above the State of Illinois suspension rate. Although there were no statistically significant relationships when combining variables included in the students' characteristics with the school characteristics and parental contact the odds that a school suspends above the average decreases. The results for this test may have been affected by the fact that only two schools out of the total of 30 schools used in this research had suspension rates below the state of Illinois (schools categorized as 0 for the dependent variable). According to King and Zeng (2001) an optimal dependent variable has a mean of 0.5. This means that 50% of the cases are 0 and 50% are 1. For the case of this research the ideal sample would have been fifteen schools with suspension rates above the rate of the State of Illinois and fifteen schools with suspension below the rate of the State of Illinois. King and Zeng (2001) recommend that when you have data with a low number of zeros or ones you should collect more data. In this case collecting more data was not possible since all the schools meeting the inclusion criteria were used in the analysis.

When conducting a logistic regression to find how the independent variables may predict the odds that a school will have out of school suspensions above or below the average rate within the sample it found that the percentage of students with disabilities was statistically significant in all four models. This means that when increasing in one percent the percentage of students with disabilities in a school the odds of having suspension rates above the average within the sample increase.

The hypotheses that there was a relationship between the dependent variable and the predictors is partially supported since two variables were found to be statistically significant. The sex variable represented by the percentage of males in the school has been proven by other research to be part of a combination with race that makes students more likely to be suspended.

Various researchers argued that male students tend to be suspended more often than female students (Blake, Blutler, Lewis & Darensborough, 2011; McElderry & Cheng, 2014). A speculation around this situation could be found in social perceptions around what women do and how they behave. This situation along with the sex of the teacher might lead to a different approach or bias towards discipline with this group of students (Gregory & Thompson, 2010).

Moreover the percentage of students with disabilities in the school was found to have a statistically significant relationship with the dependent variable. It supports the idea that those students who are in need of a more thoughtful discipline are making a difference on school suspensions. Based on the results this one was the variable that predicts when a school has out of school suspensions above or the below the suspension rate of the state or the average within the sample. An assumption to explain why there is a relationship between the percentage of students with disabilities in a school and the out of school suspension rates could be found in how teachers do not know how to handle students with disabilities especially those with behavioral, intellectual or learning disabilities. According to this basically the more vulnerable the student more likely to be suspended. When a student is turn into a vulnerable subject by an incorrect interpretation of his or her behavior and at the same social expectations and profiling are added to the student it is easier for the student to end up being criminalized and for that reason more likely to be suspended. According to McElderry and Cheng (2014) those students who are most in need of a supportive and thoughtful educational environment are being pushed out of school through biased exclusionary practices. These exclusionary practices not only affect the academic performance of the students but make them more likely to join the school-to-prison pipeline (Nicholson-Crotty et al., 2009; Skiba et al., 2014). This argument is supported through the

overrepresentation of people with intellectual disabilities in the criminal justice system (Hayes, 2002). At the same time some of them have been misdiagnosed (Hayes, 2002) supporting the previous idea that not only teachers but a school system do not know how to handle disabilities across the students. About this, Hayes (2002) argued how for example intellectual disabilities have been misdiagnosed as another condition such as attention deficit disorder which serves to exclude them from having assistance from an intellectual disabilities specialist. With that said, out of school suspensions move from being a school administration problem to a social issue that involves the management of public health through the management of the disabilities of the students.

The hypotheses about how the students' characteristics, school characteristics and parental contact help predict the odds that a predominantly Black high school in Chicago will have out of school suspension rates above or below the state's rate was not supported. None of the variables in any of the groups was found to be statistically significant to predict the dependent variable. However there was a change in the variables in every group when they were combined in every model. Although the research question was intended to find possible predictors within the variables selected the results could be interpreted using the null hypotheses. The first aspect to discuss is how only two schools suspended students at a lower rate than the suspension rates of the State of Illinois. This makes the logistic regression test more difficult to find a model that will predict the odds that school suspends above or below the suspension rates. What can be observed is that from the 30 schools included in this study, 28 have suspension rates above the suspension rates of the state. It represents that 93.3% of the predominantly Black high schools included in this study are suspending above the suspension rates of the state. When using

the same predictors in order to find the odds that a school suspends above or below the average suspension rate within the sample, the percentage of students with disabilities was the only variable that was found to be statistically significant. Based on the results from the 4 models, this variable has a stronger influence on the odds of a school suspending above the average (EXP B = 1.40, p-value=0.032) when it is tested along with all the other variables from its own group and the other two groups or categories. Based on these results and information from Table 1, when the percentage of students with disabilities is increased in one unit within schools that are predominantly Black, have a high percentage of students receiving free lunch (95.2% in average), and at least 50% of the student population is male the odds that a school will have out of school suspension rates above 208 students for every 1000 students increases 1.40 times. This can be represented through the following model:

$$DV = 1.40(\% SD)$$

Where DV represents the dependent variable which in this case is the odds that a predominantly Black high school in Chicago will suspend above the average suspension rates within schools with similar demographics. %SD represents the percentage of students with disabilities in the school. This variable includes students with mental and physical disabilities.

Although the percentage of male students was not found to be a predictor it was found that schools with a higher percentage of male students have higher suspension rates than those with a lower percentage of male students. This same situation was found with the percentage of students with disabilities in the school. It means that when a school has a higher percentage of male students and students with disabilities than other similar schools and the percentage of

students with disabilities is increased in one percent, the odds that the school increases its suspension rate increases.

Not understanding disabilities can lead to difficulties understanding how to solve tense situations in the classroom that can end in out of school suspensions. According to Allman & Slate, (2012) and Duran et al., (2011), students with emotional disabilities are more likely to be suspended.

Although students with disabilities are protected by the IDEA act of 1997 which regulates when a student with disability can be suspended, this group of students are being put at risk of incarceration when exclusionary discipline is practiced without taking in consideration the causes of the student possible misbehavior. This risk of incarceration can be supported by the overrepresentation of students with disabilities in the juvenile justice system and how the education system marginalize students based on their academic and behavioral issues being the beginning of the school to prison pipeline for these students (Annamma, 2014; Michael Nelson, 2014). According to Michael Nelson (2014) it starts with academic failure, then disciplinary exclusion to end up in the juvenile justice system.

Based on the results of this research a couple of questions arise about the discipline and punishment in the schools: are schools criminalizing behaviors that may be part of the natural behavioral or response of a student's disability?, are schools developing curriculums that engage students so their behavior does not need to be punished but transformed into positive actions in the classroom?, and are schools using correctly their resources to identify the disabilities within the students or is it on the other hand the lack of appropriate resources the one determining how schools handle students with disabilities and their discipline?

Past research has shown how teachers and the size of the classroom play an important role when exclusionary disciplinary measures are taken by the school (Crabtree, 2002; D'Angelo & Zemanick, 2009; McElderry & Cheng, 2014; Sberna, 2005). Although none of the variables related to the size of the classroom (student to teacher ratio) and the characteristics of the teachers were found to be statistically significant, it is interesting to mention that when conducting a logistic regression to find the odds of a school having suspension rates above the average within the sample, it was found that when these variables (student to teacher ratio and the percentage of full time classroom teachers in second year of teaching) are put in the regression model along with the student's characteristics the odds that a school will have suspension rates above the average within the sample will increase by 1.58 when increasing in one unit (one student) the student to teacher ratio. At the same time when analyzing the same variable but adding the third group or category of variables (parental contact), the odds that school will have suspension rates above the average within the sample will increase from 1.58 to 1.67 when increasing in one student the student to teacher ratio. When analyzing the percentage of full time classroom teachers in second year of teaching, the odds that a school will have suspension rates above the average within the sample will increase by 1.03 when increasing in one unit this variable. When parental contact is added the odds that a school will have suspension rates above the average within the sample slightly changes to 1.02.

With this said, although these variables were not found to be statistically significant, they were the only three variables besides the percentage of students with disabilities in the school that shown an Exp B higher than 1. This means that these variables are the only ones that might have an increase in the odds that a school will have suspension rates above the average within

the sample. For example an Exp B of 1.22 for the male students in model 3 means that if the percentage of male students is increased in one unit the odds that a predominantly Black high school has a suspension rate above the average within the sample increases 22%. It comes from the equation $[\text{Exp}(B) - 1] * 100$. Replacing the values in the equation the following expression results: $[1.22 - 1] * 100 = 22\%$.

When applying an ecological approach to examine the out of suspension rates within predominantly Black high schools in Chicago when comparing their suspension rates with the rate of the state of Illinois no variable was found to be statistically significant. This can mean that the variables selected based on literature review and that were available in the official databases not necessarily are exclusionary discipline predictors. For this kind of ecological study it would be important to conduct an analysis using other variables collected through a quantitative instrument designed and validated by the researcher in order to include more specific questions in every group of variables. At the same time more detailed data around the type of parental contact, how it works, when it is successful, and how the parents are included in the discipline decision making would make a difference around how parents can really influence out of school suspensions. Moreover data around more descriptive information about the type of disabilities across the students categorized as a students with disabilities would be important to take into consideration. Questions around how these disabilities are handled by the school, programs in the school related to students with disabilities and the knowledge of the school around discipline in this population.

CHAPTER VI: CONCLUSIONS

It would be important to overcome the limitations of this study through questions where, for example, the difference between all the different types of disabilities are addressed. At the same time in order to know and understand more about the student's individual and interpersonal life, questions related to the income of the family, the parent's education, family recreational activities, and extracurricular activities performed by the student need to be asked.

For the parental contact it would be interesting to know how many times a parent is successfully contacted by the school and how many time the parent initiated contact with the school. Also it would be important to go further into the family environment with question like number of parents or responsible adults in the house, number of siblings, if the student takes care of any adults or minors, etc.

When comparing the sample with the average rate within the sample the percentage of students with disabilities and the percentage of male students were found to be statistically significant when conducting a Chi-square analysis. Furthermore when conducting the logistic regression the percentage of students with disabilities was found to be a statistically significant predictor of the out of school suspension rates. The findings support the contention that students who are most in need of a supportive and comprehensive educational environment are more likely to be punished through biased exclusionary practices. According to McElderry and Cheng (2014) and Nicholson-Crotty et al. (2009) these marginalized students may end up in the school-to-prison pipeline for that reason, and the educational consequences more effective interventions to lower suspensions and expulsion rates of the most vulnerable students should be implemented in the schools. To achieve more socially aware disciplinary practices I suggest different actions

to be developed by the schools to reduce suspensions: First, teachers' beliefs and perceptions around their students should be known by the school in order to develop strategies to prevent biased exclusionary practices. This practice will try to prevent the criminalization of students based on the way they look. Second, teachers, counselors and special educators should be trained not only to identify special needs in the students but to address them in order to avoid the misunderstanding of actions that can be related to the disability and not to an action of misconduct. Third, according to Monroe (2005) schools should maintain learners' interest through engaging instruction. Since a clear correlation exists between student discipline and academic performance, Monroe (2005) suggesting that when students are immersed in learning and intellectual tasks, they are less likely to engage in behaviors that will distract them from the learning activities.

Although some authors propose that in order to address disciplinary issues schools should have a race-conscious approach, I suggest an ecological-conscious approach in order to improve school inequalities involving exclusionary discipline measures. This approach encourage us to stop thinking about race as the only way to explain all the inequalities happening around Black students and moves us to a level where race along with other aspects in their lives need to be addressed in order to understand the way the students behave. An ecological-conscious approach implies a better understanding of the students, their needs and particular traits. This approach could be a first step to stop the criminalization of students in schools and the perpetuation of a cycle of failure for those who are more likely to be suspended in virtue of their race or for the case of this research in virtue of their disabilities.

The two main contributions of this study in understanding discipline and out of school suspensions are based on taking away the blame completely from the students and trying to find a more holistic way to understand the overrepresentation of Black students in the disciplinary system. One of the contributions of this study is that the race variable that has been usually related to Black students misbehaving more frequently than other students was eliminated as an option to blame students based on the way they look, social assumptions, and an extremely narrow approach to what race means and what to expect from people based on generalizations that criminalize a certain group. The second contribution that this study gives to school discipline and out of school suspensions is that the unit of analysis for all the statistical tests were the schools and not the students. Meaning that it helps to take away from the students all the blame and shame from the suspension rates in their schools. It is not only how the students behave but how the schools handle their behavior. This study analyzed the schools and their composition through three different categories that helped to understand what was happening within predominantly Black high schools in Chicago and their out of school suspension rates. This way to analyze out of school suspensions will help schools to make the necessary changes in the way they handle discipline especially among students with disabilities.

Another conclusion that comes from this study is about the way data are being presented and reported by the education authorities. One of the biggest limitations of these databases was how categories were defined and presented by the Department of Education through the Civil Rights Data Collection website. Categories like race, students with disabilities, and sex were very broad and lacked a more specific definition between the individuals included in each category. This narrow definitions implies generalization in terms of the race of the students, their

gender and the type of disability the students may have. Data should be presented in a more descriptive way with a better understanding of the differences that may exist between the subcategories included under the same big category or topic. Meaning that variables like sex should be better defined and named in a way where all students may be included regardless of their biological nature. For this particular case the use of the concept of gender according to Unger (1979) would introduce those characteristics and traits socio-culturally considered appropriate to males and females and not just biological mechanisms implied by the concept of sex which may be considered an exclusionary concept when talking about the inclusion and diversity of all the students in a school. Same thing may happen when reporting data about race especially when it is addressed as a color of skin or pigmentation issue. This approach excludes and generalizes students that probably the only thing they may have in common is their pigmentation.

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